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43

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Methods Used in a Study of Morale
—*Leonard D. White*

Selection of Motormen in Milwaukee
—*Sadie Myers Shellow*

Bibliographic Research in College Personnel Management
—*Herbert A. Toops*

Book Reviews Abstracts News Notes

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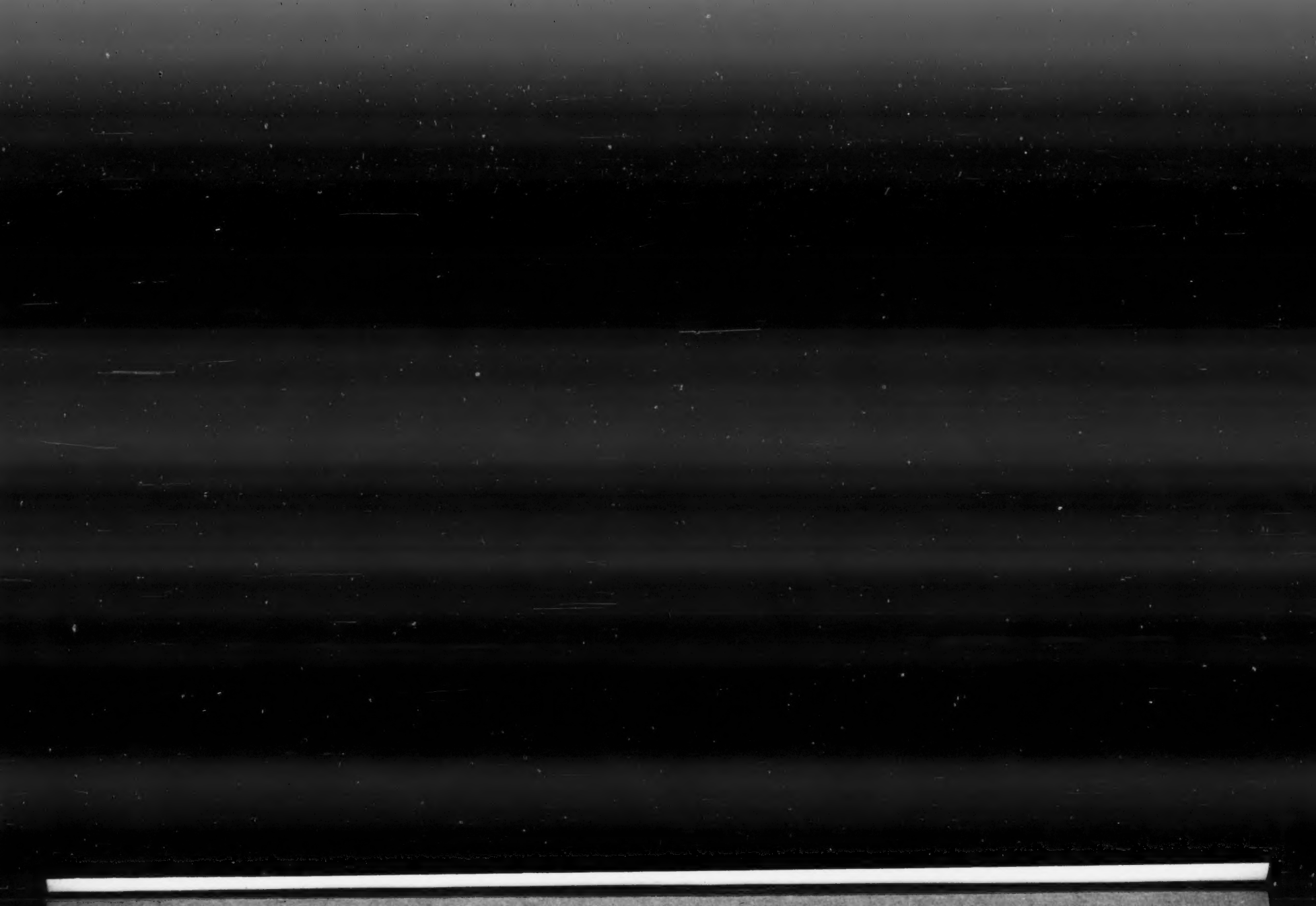

# Methods Used in a Study of Morale in the Municipal Employment of Chicago

By Leonard D. White, *University of Chicago*

*Dr. White's paper was presented at the Washington Conference on Methods of Research in Industrial Relations. It describes the procedures followed in the preparation of his report to Mayor Dever on "Conditions of Municipal Employment in Chicago," a document now obtainable from the office of the Chicago City Clerk.*

THIS study was initiated at the request of the Honorable William E. Dever, Mayor of Chicago, in June 1924, and was completed about ten months later. It should be understood that it is an exploratory study, rather than a scientific investigation. No attempt at quantitative evaluation was made, and no control group was used. Although there is some tabular material, it is not a statistical study.

In order to introduce the methods used, and to indicate something of their strength and weakness, it seems necessary to state briefly the objectives of the investigation. Conditions of municipal employment have been seriously impaired in Chicago since 1915 and the present administration is faced with the task of renovating the service. It was felt that the task of renovation was primarily concerned with improving the working environment of the 22,000 employees, rather than with alterations in the general administrative structure, or with the introduction of efficiency methods as they are commonly understood.

## ANALYSIS OF WORK SITUATION

The working environment of this army of employees became, therefore, the object of careful study. Of equal importance, however, were the attitudes of the rank and file toward their conditions of employment, in fact the analysis of the work situation was largely, although not wholly, approached through a study of the attitudes of city employes toward their jobs. This became substantially an attempt to ascertain what sense of satisfaction and what sense of grievance existed and what were the respective bases of these feelings. This information then led into an attempt to formulate the bases on which a sense of good feeling, loyalty, pride in the service, and morale, could be built up, which in turn was the foundation of a series of recommendations to the Mayor and Council.

The analysis of the general working environment and the study of grievances furnish the sections of the report at which the problem of method became of most importance. The scrutiny of the working environment led into such topics as scope and variety of employment, stability of the service (turnover, slow promotion, fixed personal relationships, high degree of organization), limited range of opportunity, absence of certain incentives, lack of cohesion among groups, prevalence of spoils system, together with certain circumstances of a more favorable character. An attempt was made to get at the motivation of city employees, by studying the reason for seeking admission into the city service and by studying the opinions of those in the service. The conditions which tend to depress morale included lack of recognition; inadequate discipline; loss of initiative; absence of common social life; maladjustment of salaries; inadequate efficiency records; abuses in promotions (waivers); delay in posting eligible lists; political influence.

## METHODS

The foregoing may suffice to give an idea of the scope and purpose of the study. The methods used will be taken up in the following order: (1) the general direction and supervision of the study; (2) the preliminary analysis; (3) the staff; (4) methods of making contacts; (5) methods of getting information; (*a*) general observation; (*b*) records; (*c*) the interview; (*d*) case studies; (*e*) the expert; (6) problem of protection of sources of information; (7) check and review of tentative conclusions.

### *Direction and supervision of study*

The general direction and supervision of the study was vested in the Committee on Local Community Research of the University of Chicago, a committee of six members representing the social science departments of the University. This committee approves each research project included in the extensive program of the University, appropriates the necessary money, furnishes headquarters, and receives the final report. By rule of the Committee some member of the faculty of professorial rank assumes the responsibility for each research project; in the case in point, the writer assumed direct charge.

### *Preliminary analysis*

A preliminary analysis and statement of objective was drawn up by the writer and subjected to criticism by the members of the Political Science department. In final form this was transmitted to the Mayor, and included a statement of objective, general principles, and types of inquiry proposed, together with a study of devices which had been tried out elsewhere for similar purposes.

### *Staff*

The staff included the writer, who not only directed the efforts of the assistants but also spent all available time actually in the field doing the essential first handwork, Dr. Joseph B. Kingsbury, who had written a comprehensive monograph on the history of personnel management in the city of Chicago, Mr. Merrit K. Little, a law student at the University of

Chicago who had had thorough training in the Political Science department, and Mr. Clyde C. Foley, a graduate student in the Political Science department who had had earlier experience in efficiency work in industry. Dr. Kingsbury and Mr. Little were engaged during the summer months of 1924, Mr. Foley from October until the conclusion of the study. In addition, a number of graduate students were employed for interviews in connection with a questionnaire.

### *Contacts*

A somewhat embarrassing point arose in connection with making the early contacts. The Mayor was requested to announce the inquiry to the department heads and to secure their coöperation. This was done; but the issue arose whether it would be wiser to start with the top or with the bottom of the service, that is, with department heads or with the rank and file. The choice fell in the last named direction, because it was felt to be of primary importance to secure the confidence and coöperation of the employees, even at the risk of misunderstanding by those in high places. Fortunately, with only one minor exception, this misunderstanding did not arise. The heads of departments, without exception, coöperated in every way desired.

Earlier experience had pointed the way to the most useful contacts to be made with the employees, to wit, through their associations and unions. The writer was given the opportunity to appear before the executive committee of the Municipal Employees' Society where he made a full and frank statement of the proposed inquiry and asked for their coöperation. Similar contacts were established with other groups with the result that the inquiry was able to get at the heart of the situation as it appeared to the employees.

The early stages of the study were directed at the establishment of a general *rapport* with the situation. A number of departments were selected for careful study, and here the natural approach was from the head of the department down through the administrative hierarchy. These inquiries led our investigators into many unexplored by-ways, all the way from a water tunnel under construction two miles out in Lake Michigan to a school for diseased prostitutes in the Communicable Diseases Hospital. A sidewalk inspector said to us, "This is the first investigation in which anyone ever came actually to see what we were doing." We were interested, of course, not so much in what he was doing as his working conditions and his attitude toward them, a point which was sometimes difficult to make clear.

This period of general observation then sharpened down into a long succession of interviews, and the basis of our analysis rests very largely on them. Their trustworthiness therefore becomes a matter of prime importance, and in view of current interest in the interview some attention will be given to our experience with this method of inquiry.

### *Interviews*

In general two types of interviews were developed, the open or free in-

terview, in which the subject was approached from whatever point seemed most feasible and was led on by successive questions to open up on his feeling toward whole employment problem, and on the other hand the specific interview in which the subject was approached with a single well defined purpose and asked questions leading to comparable answers. The report in the first case becomes the record of a conversation, in the second place it gives a formal answer to a questionnaire.

The first type of interview was carried on solely by Messrs. Kingsbury, Little, Foley and the writer. They were guided chiefly by a common conception of the objective of the study, together with what general suggestions could be given from earlier experience. Regular meetings were held at which results were compared, experiences exchanged, and suggestions made. At all times the interviewers were warned to write up their material immediately after the interview, but not enough insistence was laid on the necessity for separating the interview *per se* from the interpretation of the interviewer. In general, however, useful results were achieved by the open interview, and results which checked with the different interviewers.

The second type of interview was based on a questionnaire and was carried on by two groups of graduate students in political science, with four exceptions men, with an average age of about twenty-five or twenty-six. Their task was to ascertain the reasons why men and women sought to enter city service, or why they preferred to remain in the service. A preliminary study on this point two years earlier had given some insight into the problem and on that basis a questionnaire was set up with some twenty possible answers. These were carefully explained orally, and typewritten instructions given in addition. The interviewers were instructed to make out the schedules immediately after the interview, to leave nothing to memory, and to write down any pertinent observations. The schedules were returned to Mr. Foley, who checked them carefully and gave further instructions where necessary.

Experience with the interviewers led us to a clear appreciation of some of the difficulties to be encountered. First was the uneven quality of the interviewers. Some schedules were discarded as obviously useless, while others were models of exactness and insight. Some people enjoy this sort of work while others find it tiresome or unpleasant or irritating. Some take it seriously, others seek only to get any kind of an answer to a sufficient number of schedules. Some have a bias or preconceived notion, although this element was not so important as might have been supposed. With regard to the subjects, in some matters we encountered an extreme reluctance to give information, as, for example, on outside gainful occupations. Others were unduly influenced by a sharp personal experience. In general it proved difficult to have the subject grasp the purpose of the interview. Some difficulties were anticipated which did not develop. We feared that we would encounter a general unwillingness to talk, that

we would not secure the confidence of of the subjects, and that we would meet with some deliberate misrepresentation. With few exceptions, however, these difficulties did not arise.

The need for indirection was a constant element in our interviews. A direct question was frequently apt to eliminate results, consequently the interview ranged all the way from exchanging fish stories to reminiscences of events and adventures in the department, with an occasional glimpse into motivation or grievances which proved invaluable.

Need for protection to the person interviewed was also of primary importance. The deeper below the surface the study penetrated, the more necessary it became to assume absolutely confidential relationships. It was found that the most fruitful interviews were those outside the city offices and outside office hours. Group meetings, luncheon engagements, and occasional conferences in the homes of city employees illustrate the type of occasion referred to. As a rule the second or third interview proved much more important than the first.

One of the products of our contact with city employees was a series of case studies. By one means or another we were able to build up fairly extensive personality studies, some of which illustrated bad cases of maladjustment, others illustrated a high morale. The personal histories included such items as physical histories; education; boyhood ambitions; circumstances which led the subject into city employment; attitude toward the work, the city, fellow employees; adjustment to the job; frustrations; ambitions; range of interests and the like. These case studies were written up, and then an attempt was made to conceal the identity of the subject. This proved to be only partially successful, and the whole series was therefore eliminated. This experience suggests one of the difficulties in presenting material which may delve down into levels of experience not yet related to the personnel problem but which may prove to have a vital importance.

An important source of information was a group of "experts." By this term are designated some twenty-five men who have served in the city hall for periods ranging from ten to thirty years, and who know the conditions of municipal employment with unusual thoroughness. These men were given a questionnaire containing a wide range of questions, which were filled in at their leisure. Some of the replies were very comprehensive. They were worked over and checked against conclusions reached by observation and inquiry elsewhere.

The records of the city hall proved to be of little value. The office records of the Civil Service Commission gave information on waivers and promotions, but as a rule they were not set up in such a way as to be of great assistance. Turnover records do not exist and many other records which could readily be collected were not to be found. From the records of the Pension Board, which were in good condition, some useful tables were worked out. The nature of the inquiry as well as the inadequacy of existing records made

it impossible to rely to any considerable degree on written sources of information. The chief source of our information was the interview and first hand observation from office to office.

*Checking tentative conclusions*

After the original statement was worked up came the problem of checking and criticism. This was met in several ways. In the first place members of the University staff, Professors C. E. Merriam and L. L. Thurstone and Dr. H. F. Gosnell went over the manuscript. It was then sent to Dr. Luther Gulick and Mr. Bruce Smith of the National Institute of Public Administration, and Professor W. E. Mosher of Syracuse University, all of whom have had wide experience in dealing with studies of personnel, and none of whom had been in touch with the study hitherto. Finally the employees were given an intimation of what the report would probably contain and were requested to make suggestions. The confidential character of the report at the time made it impossible to invite them to go over the manuscript. Some of the conclusions were also checked in an experimental way by reason of some tentative innovations in certain quarters. A more complete check has come since the publication of the report from the employees, who assert that the analysis is substantially a correct one.

An interesting problem which did not arise in this study but which might readily arise under the circumstances is the degree to which the Mayor, under whose auspices in part the report was made, should be expected to revise either the finding of fact or the conclusions before publication. The report was in fact submitted to the Mayor who examined it carefully and made a few suggestions, all of which were well taken, and which eliminated possible sources of misunderstanding.

A final problem on which it is important to insist in any investigation is the necessity of protecting the source of information. By virtue of the confidence reposed in the writer, highly confidential disclosures were made to him which if known would almost certainly lead to reprisals. Throughout the report all names were eliminated or falsified, and even departments were anonymous except in cases where there was no imputation of laxity. The purpose of the study was not to condemn individuals or departments, but to unravel the tangled threads of employment situation.

## UNSOLVED PROBLEMS

In conclusion it may be said that this exploratory study suggested a number of further studies, some of which seem to lend themselves to scientific treatment. Thus a study of fatigue among motion picture censors is already projected. The prestige value of a job with the city seems to be open to attack along statistical lines. Whether there is going on a process of selection among applicants for city positions tending to select the less aggressive and ambitious members of a given age group, is an important and possibly a determin-

able question. There is probably a given age or period of service with the city beyond which voluntary separation is almost unknown. This age or range should be determined with as much accuracy as possible in order to give advice to men and women as they reach this critical point. The extent to which loss of initiative occurs forms an important inquiry. The question as to whether there is an ascertainable capacity for administration and if so how it can be discovered is fundamental. The whole task of vocational adjustment in the public service remains to be undertaken. Finally there remains the experimental confirmation of the recommendations proposed in the study to raise the level of morale.

(Manuscript received June 22, 1925.)

# Research in Selection of Motormen in Milwaukee

By Sadie Myers Shellow, *Milwaukee Electric Railway and Light Company*

*The experiments here reported by Dr. Shellow bring down to date the Milwaukee researches on selection tests and the practical results achieved. Improved apparatus is described. Reliability of ratings has been studied. The personal interview also has been utilized as a means toward discovering and remedying those temporary mental conditions which so largely contribute to the motorman's liability to accident.*

THE preceding articles of this series,[1] written by Dr. Morris Viteles of the University of Pennsylvania, reviewed the history of experimental work in selection of motormen and described the original preliminary investigation for the Milwaukee Electric Railway and Light Company. The apparatus devised for the experiment and the principles involved were discussed. This experimenting was carried on during the years 1920–22 partly under Dr. Viteles' direct supervision and partly through correspondence. The results were considered sufficiently suggestive to warrant rebuilding the apparatus in a more permanent form, and further experimentation. The present paper summarizes the results of a series of three studies suggested by the preliminary work of Dr. Viteles.

[1] *Research in Selection of Motormen.* Morris S. Viteles. Journal of Personnel Research, Part I, July 1925, Vol. 4, No. 3, pp. 100–115. Part II, August–September, 1925, Vol. 4, No. 4, pp. 173–199.

## STUDY I. SUPERVISORS' RATINGS

The question of the reliability of the ratings always arises when checking objective score records against subjective estimates. In order to determine the variability and consistency among supervisors in their ratings, and also to analyze further details which the selection tests might show, the supervisors were asked to rate the men a second time. In this study the following traits, considered analogous to those actually tested by the group of selection tests, were selected for rating:

1. *Attention.* The raters were asked to try to visualize the man at his work, keeping in mind these questions: Is he easily distracted, does he keep his mind on the job all of the time carefully watching the road ahead, or does he appear to be day dreaming, and his attention wandering?"

2. *Operation.* "Does he carefully follow standard practice, or is he careless about his movements? Does he

operate the car smoothly and skillfully or with jerks?"

3. *Judgment.* There were three separate ratings called for under this heading:

A. Judgment in handling his car under routine conditions
B. Judgment in handling people
C. Judgment in emergency situations

In order to facilitate the rating, a scale was provided which consisted of a line 50 millimeters long. At the extreme left, "very poor" was written; at the extreme right, "perfect." Each supervisor was given the names of the men and told to rate the ones he knew on each of the above traits using the linear scale and placing a mark at that point on the line which most nearly indicated where the man belonged.

Considerable time had elapsed between the original ratings in the preliminary investigation and those reported here. The men had been tested in the fall of 1921 and this study was made in May, 1923. Of the eighty-eight men originally tested, the records of only seventeen could now be used. Forty-four had been tested under conditions which were not standard, and twenty-seven had left the company.

After each of the seventeen men had been rated, the marks on the lines were measured. The number of millimeters from the end marked *"very poor"* (used as the zero score) constituted the numerical score. After an interval of a week the same supervisors were asked to rate the same men again, in order to determine whether or not the supervisors were consistent in their ratings. An average score was assigned to each motorman. It was computed by totalling the scores of all the supervisors who had rated him and dividing by the number of supervisors.

*Variability in supervisors' judgment of same men*

After the average rating had been computed for each man, the deviation of each of the supervisor's ratings from this average was computed and an average taken of these deviations. This gave the average deviation (A.D.) or the measure of variability in judgments among the various supervisors for each of the traits rated. The results of this study are shown in table 1. Considering that the line was 50 mm. long, the range of deviations for the traits is not great. The supervisors differed most in their estimates of *Attention*, and least in their estimates of the motorman's *Judgment in Handling People* (*Judgment B*). The range of variability indicates that while, on the average, the differences in rating were not great still there were individual differences of sufficient degree to cast doubt upon the reliability

TABLE 1

*Deviations of supervisors' ratings of motormen*

| TRAIT | | AVERAGE DEVIATION (FOR ALL MEN) | RANGE OF DEVIATION |
|---|---|---|---|
| | | *mm.* | *mm.* |
| Attention | | 7.7 | 1.5–15.0 |
| Operation | | 6.4 | 2.0–11.6 |
| Judgment | A | 7.4 | 1.0–12.0 |
| | B | 5.2 | 1.5–10.2 |
| | C | 6.25 | 1.3–10.0 |

of the estimates of individual supervisors.

*Variability in ratings made at interval of one week*

The ratings for each man were further compared with those made by the same supervisor a week later, and the differences noted. The differences for all of the men rated by a single supervisor were averaged. The average difference represented the index of the supervisor's consistency in rating. An average of all of these indices was then taken in order to arrive at a general figure which would represent the consistency for all of the supervisors. These figures are presented in table 2. The averages are lower than those given by a comparison of the ratings made by the different supervisors, showing that the individual supervisors agree with their own judgments better than with those of other supervisors. However, the range is greater. This may be due to the fact that—in spite of the warning that they refrain from discussing their ratings with each other—they did so, and changed their minds. Or, perhaps, (as was true in at least one case) they may have happened to observe something later which altered their opinions. In the one case where the estimate dropped from a score of 37 to 10, the drop was toward the average score, which would suggest either that the supervisor had had some unusual incident freshly in mind when giving the original rating, which had faded out, or that he had discussed the case with the other supervisors. There seems to be least agreement, both among the different supervisors and also in the two ratings by the same supervisor, for the trait designated, *Attention*. This was undoubtedly the most difficult trait to rate. The greatest agreement was for, *Judgment in Handling People*, and *Operation*. On the whole the variability of the supervisors' estimates made them of doubtful reliability as criteria against which to check the results of the test.

TABLE 2

*Supervisors' deviations from their original ratings*

| | | AVERAGE | RANGE | TOTAL RANGE |
|---|---|---|---|---|
| | | *mm.* | *mm.* | *mm.* |
| Attention | | 6.4 | 1.5–12.6 | 11.1 |
| Operation | | 4.4 | 1.6–17.0 | 15.4 |
| Judgment | A | 5.2 | 1.0–8.8 | 7.8 |
| | B | 4.9 | 1.6–16.6 | 15.0 |
| | C | 6.0 | 2.0–8.0 | 6.0 |

*Correlation between Viteles' Motorman Selection Test and supervisors' ratings*

In order to compare these ratings of the supervisors with the results obtained on the Viteles' Motorman Selection Test, relative positions had to be found for each of the men rated. The scores assigned to each man by all of the supervisors who rated him were averaged, and this average used as a score known as the *supervisors' estimate*. These were arranged in order for each trait, the lowest man being assigned rank 1, and so on. The test scores for the *Viteles' Motorman Selection Test* were arranged in the same way, so that the lowest rank indicated

the poorest score, and inter-correlations were computed. These are presented in table 3.

Only two correlations here are high enough to be significant, that between *Training Time* and *Operation*, and the one between *Judgment Test* and *Judgment A* (Judgment in handling the car under routine conditions). The other correlations might easily result from chance. The relatively high positive correlation between operation and training time is significant.

TABLE 3

*Correlation of Viteles' Motorman Selection Test scores with supervisors' estimates*

| VITELES' MOTORMAN SELECTION TEST SCORES | ATTENTION | OPERATION | JUDGMENT | | |
|---|---|---|---|---|---|
| | | | A | B | C |
| Total mistakes | +0.10 | +0.07 | | | |
| Training time | +0.16 | +0.57 | | | |
| M-104 (test of judgment) | | | +0.58 | +0.27 | −0.13 |

## STUDY II. RESTANDARDIZATION OF THE VITELES MOTORMAN SELECTION TEST

### *Modifications in apparatus*

The Viteles' Motorman Selection apparatus originally required that the recording of the responses be done by the experimenter or an assistant. The signals often came close together and two people scoring the responses might easily arrive at different results. An automatic recording devise had been suggested but had not been built. A permanent apparatus was then designed by Dr. Arthur J. Rowland (Educational Director, The Milwaukee Electric Railway and Light Company) assisted by Walter J. McCarter, both electrical engineers. The apparatus was built into a cabinet with buttons controlling the various contacts (fig. 1). An automatic recording devise consisting of a roller and tape mechanism was added. As described in a previous article, the flashes go on and off periodically. At irregular intervals and in mixed order, the various signals are given.

### *Explanation of automatic recorder*

Figure 2 shows two samples of records made on the Automatic recording tape, somewhat reduced in size.

*O* designates periodic flashing lights and is recorded simultaneously with the flash which occurs, in this record, every 2.4 seconds.

*S* has been substituted for *O* to designate a signal which occurs simultaneously with the flashing of the lights.

Responses to the signals are indicated by numbers; *6* represents the response to the bell signal, *5* the response to the horn, *1* and *2* the hand and foot movements to the lower left hand light, and *3* and *4* the hand and foot movements in response to the upper right hand light.

In record A, the responses have been made very quickly and with good

coördination. This can be seen by measuring the vertical distance from the signal *S* to the numbers indicating the responses. The hand and foot movements appear together, indicated by the horizontal alignment of the *1*, the hand movement, with the *2*, the foot movement. This is also true for the response *3-4*.

In record B the responses are shown as slow and poorly coördinated. Note the vertical distance between the response *6* and the signal *S;* the response is so late that it appears even after the succeeding flash *O*. The poor coordination is shown by the diagonal position of the signals *1* and *2* and *3* and *4*. The *2* drops below the *1*, and

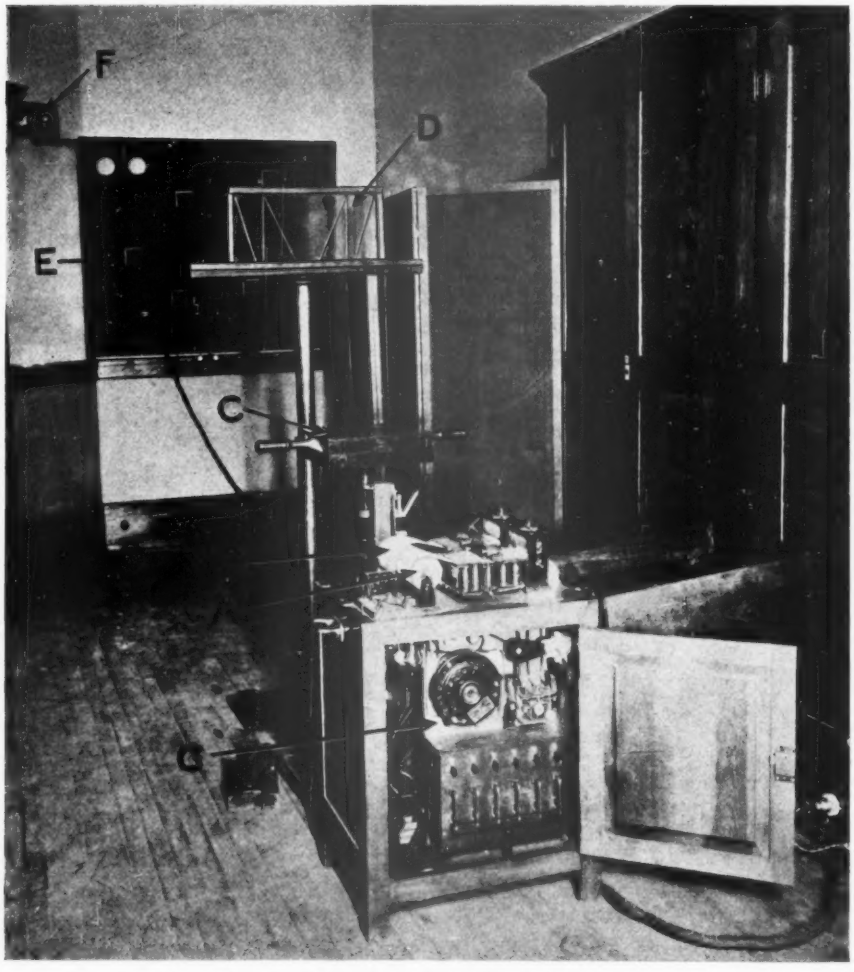


FIG. 1. MOTORMAN SELECTION APPARATUS

*A*, Automatic recorder; *B*, Automatic signal contactor; *C*, Reaction handles; *D*, Emergency stimulus; *E*, Signal lights; *F*, Distraction light; *G*, Control and signal apparatus.

the *4* below the *3*, showing that the foot responses are slower than the hand responses. The recording apparatus moves in conjunction with the testing tape, and records the responses by means of keys which hit against an inked ribbon, thus entering them on the tape.

Since the signals are given coincidentally with the flashes, the length of time for the subject's response in any given case can be determined by measuring the vertical distance from the symbol *O* to the numbers which indicate the response. One can also see at a glance whether the movements are well coördinated or whether the hands and feet respond at different rates. A key ribbon with the correct responses makes scoring rapid and accurate. This improvement overcomes the original difficulty of scoring by hand, and the danger of error due to over-looking a signal.

Other changes have also been made in the set-up of the machinery. In its present form the apparatus is compact and durable, easily operated and rarely needs attention. Conditions now are standard so far as the original test is concerned although there is still some experimenting to be done on the distraction part of the test. A third feature has been added, consisting of a flash directly in front of the subject which is designed to show reaction time under emergency conditions. The flash is a high frequency arc produced by a Tesla coil, discharged across a glass plate. When the subject has finished the test a third tape is inserted in the machine. He is asked to practice on the number 4 signal (the upper right hand light) with the room darkened, in order to see the effect of the light on his eyes. He is told that under these conditions we sometimes get a flash, in which case

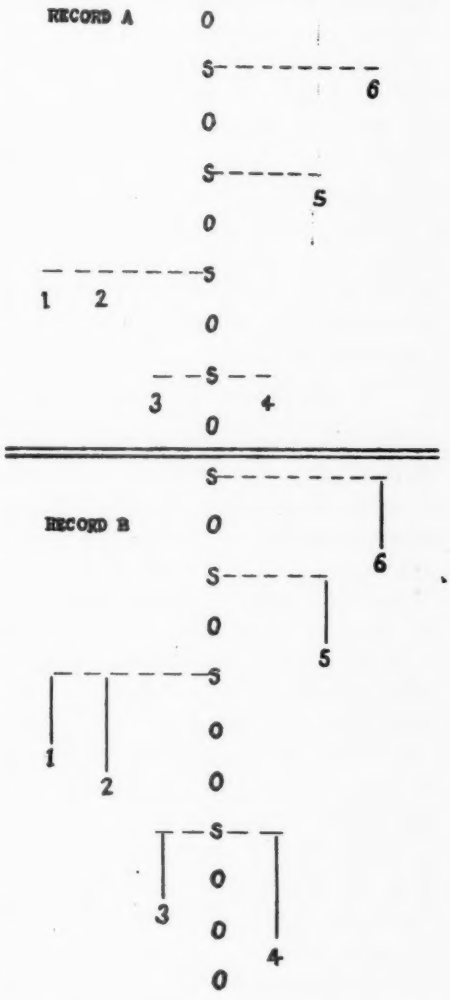


FIG. 2. SAMPLE OF AUTOMATIC RECORDING TAPE

he must turn the machine off as soon as possible. He is shown how to turn it off. The operation consists of a hand and a foot movement. Both must be performed or the flash con-

tinues. Several signals are given at irregular intervals, and then the flash commences.

The recording tape is marked off into tenths of millimeters. Each tenth of a millimeter represents 0.15 second, so that by noting the point at which the machine has been stopped, the reaction time can be computed to the hundredth of a second. A constant error is subtracted for the lag of the machine. Experimentation with this part of the test was abandoned recently, since no correlation with safety was indicated. A new device is now being tried out.

*Re-standardization of the test*

The changes in the apparatus and method of scoring were so vital that a re-standardization was deemed necessary in order to establish new standards for selection. During the summer of 1924, 144 motormen were given the *Revised Motorman Selection Test.*

The method of selecting subjects was different from that employed in the original standardization. The supervisors were asked to send in two groups of men. Group A was to consist of their safest and best operators, and Group B, their poorest. It was hoped that by selecting men at either extreme, important differences would be brought to light.

A two-fold study was contemplated; combined with the test, an interview was planned, in order to arrive at some idea of the personality, background, habits and interests of the two groups, to determine whether any contrast in regard to these factors also, existed. In selecting a man for a job, the problem is not alone one of *ability* to do the job. It is possible that a man may have the ability to do good work, but may lack interest, or may have his efficiency interfered with by temporary subjective factors. It was hoped that the interviews might reveal some causes for the inconsistencies found between ratings and test scores.

Although the supervisors had selected the motormen with the idea of safety in view, they were not asked to rate the men. A more objective rating was desired. Since every accident must be immediately reported in order that the motorman may present his side of the story in case of a suit, it was believed that the accident record might be so weighted that it could be used as an index of a motorman's safety. Whenever it is believed that the motorman is responsible for an accident, he is either cautioned by his superintendent or given a certain number of demerits depending upon the nature of the accident. These cautions and demerits are entered on the accident card record. Accordingly, the number of accidents per year for which any motorman had been judged responsible was used as a measure of his safety. A median index was found; all those whose records were above the median were classified as *poor* while those who were below the median in the number of their accidents, were classified as *good.*[2]

The group selected by the supervisors was heterogeneous in respect to

[2] This part of the investigation was carried on by O. J. Stallkamp, a member of the Educational Department of The Milwaukee Electric Railway and Light Company. Tables 4 and 5 were compiled by him.

age and length of service.[3] Since the poor men tend to weed themselves out through serious accidents, *time* becomes a real selective factor. The data have been analyzed with this in view. The results are shown in tables 4 and 5.

It had been the plan to test fifty good motormen and fifty poor ones, but the tests of seven had to be discarded because adequate accident records were not available for comparison. Table 4 is a study of a group of ninety-three men.

An examination of table 4 reveals the following facts:

*a.* The number of accidents per year per man decrease with length of service with exception of good motormen over twenty years in service. This is expected because the less safe men have eliminated themselves by their accidents, and those in service over twenty years tend to become sluggish.

*b.* Differences in the number of collisions for which a motorman is held responsible indicate the accident liability of the groups. A real difference between the groups selected is shown.

*c.* Training time for the test increases with length of service, showing that the older a man is the harder it is for him to learn new responses.

*d.* Training time for the groups of good motormen is much less than that for groups of poor motormen. This is significant and suggests that the man who learns more easily is liable to be more safe in operation. The test also shows whether or not a new man is easy to instruct or finds it hard to learn. This is important information for the motorman instructor.

*e.* The difference in the test scores shows that the test differentiates between good and poor motormen up to 10 years of service. *But for a few exceptional men, the differences in the test scores would show greater differentiation between the two groups.* Test scores show no differentiation in groups of over ten years experience. The reason may be that men whom this test would differentiate have already been eliminated from service by their accidents.

*f.* If this test differentiates at all between good and poor motormen of a group which is already picked as acceptable to handle the cars, it should be expected to differentiate far more between men who can become good motormen and men who cannot become motormen at all, namely the men who will fail to be turned in after they have been instructed.

It so happened that the accident record of all of the men who had been in service less than a year, fell above the median, and they were therefore classified as *poor*.

Summarizing these observations it is seen that the Viteles' Motormen Selection Test scores seem to differentiate between the good and poor motormen in service less than ten years. For those in service over ten years, the results are reversed.[4]

[3] In this case the supervisors' ratings were not considered, the object being to use the accident record alone as a criterion.

[4] By the time a motorman has been in service for ten years or more, he has automatized his reactions to a large extent. This would account for the decreased accident record and also the increased errors on the Selection Test. It was more difficult to teach them *new* movements and their reactions on the test were more sluggish.

TABLE 4

*Motorman selection test scores*

Comparison of Motorman Selection test records and accident records

| MEN WITH LESS THAN 1 YEAR SERVICE | 11 POOR MOTORMEN | NO GOOD MOTORMEN |
|---|---|---|
| Accidents per month per man | 1.73 | |
| Collision accidents per month per man | 1.53 | |
| Collisions per month per man (blame attached) | 0.46 | |
| Average training time for test, minutes | 24.3 | |
| Average score (number of errors) | 17.9 | |
| (No comparison possible) | | |

| MEN WITH 1 TO 5 YEARS EXPERIENCE | 6 POOR MOTORMEN | 6 GOOD MOTORMEN |
|---|---|---|
| Accidents per month per man | 1.09 | 0.24 |
| Collison accidents per month per man | 1.05 | 0.22 |
| Collisions per month per man (blame attached) | 0.16 | 0.02 |
| Average training time for test | 25.5 | 22.5 |
| Average test score (number of errors) | 20.0 | 11.2 |
| (Good motormen have average training time 3 minutes, and test score 8.8 less than those of the poor motormen) | | |

| MEN WITH 5 TO 10 YEARS EXPERIENCE | 15 POOR MOTORMEN | 14 GOOD MOTORMEN |
|---|---|---|
| Accidents per year per man | 7.67 | 3.4 |
| Collisions per year per man | 6.52 | 2.76 |
| Collisions per year per man (blame attached) | 0.65 | 0.29 |
| Average test training time, minutes | 27 | 23⅓ |
| Average test score (number of errors) | 19.1 | 16.2 |
| (Good motormen have training time 3¾ minutes, and score 2.9, less than those of poor motormen.) | | |

| MEN WITH 10 to 20 YEARS EXPERIENCE | 9 POOR MOTORMEN | 9 GOOD MOTORMEN |
|---|---|---|
| Accidents per year per man (1915)* | 5.7 | 2.18 |
| Collisions per year per man (1915) | 5.3 | 1.95 |
| Collisions per year per man (blame attached) | 0.58 | 0.06 |
| Average test training time, minutes | 28 | 26 |
| Average test score (number of errors) | 19.6 | 24.9 |
| (Good motormen have training time 2 minutes less, and score 5.4 more than poor motormen.) | | |

| MEN WITH 20 AND MORE YEARS OF EXPERIENCE | 15 POOR MOTORMEN | 8 GOOD MOTORMEN |
|---|---|---|
| Accidents per year per man (1915) | 4.9 | 2.8 |
| Collisions per year per man (1915) | 4.6 | 2.4 |
| Collisions per year (blame attached) | 0.52 | 0.28 |
| Average test training time, minutes | 30 | 27 |
| Average test score (number of errors) | 23.2 | 27.8 |
| (Good motormen have training time 3 minutes less and score 4.6 more than poor motormen) | | |

* Accurate records were not kept before 1915, therefore these figures are based on the number of accidents since 1915.

In order to compare good and poor motormen who had been in service less than five years, fifty-one more subjects were tested. These together with the twenty-three subjects previously considered, whose length of service was less than five years, were divided into four groups, "good," "poor," "best," and "worst." The median accident record separated the good from the poor. Of the good group, the six best were selected, and of the poor group, the six poorest, in order to compare the extremes. The results of this comparison are presented in table 5 (see columns C and D).

TABLE 5

| MEN WITH LESS THAN 1 YEAR EXPERIENCE | A (18 POOR) | B (18 GOOD) | C (6 WORST) | D (6 BEST) |
|---|---|---|---|---|
| 1. Accidents per month per man (average) | 1.68 | 0.78 | 1.43 | 0.503 |
| 2. Collisions per month per man (average) | 1.54 | 0.74 | 1.39 | 0.50 |
| 4. Collisions per month per man (blamed average) | 0.66 | 0.15 | 0.96 | 0.057 |
| 3. Average selection test score (mistakes) | 20.4 | 24.1 | 24.4 | 20.9 |
| **MEN WITH 1 TO 5 YEARS EXPERIENCE** | **A (19 POOR)** | **B (19 GOOD)** | **C (16 WORST)** | **D (6 BEST)** |
| 1. Accidents per month per man (average) | 0.78 | 0.43 | 0.63 | 0.224 |
| 2. Collisions per month per man (average) | 0.68 | 0.37 | 0.57 | 0.203 |
| 3. Collisions per month per man (blamed average) | 0.12 | 0.017 | 0.144 | 0.0 |
| 4. Average selection test score (mistakes) | 17.4 | 17.5 | 17.9 | 10.1 |

Table 5 shows that in the extreme cases some differentiation is made by the test between good and poor motormen. But especially in the case of those who have been in service less than a year, the difference in test scores between those having the fewest and those having the most accidents for which they were blamed is very small. Two interpretations are possible: (1) that the test does not select *safe* motormen, or (2) that the relative number of collisions for which a man has been blamed is not an adequate measure of his safety as a motorman. In order to determine this, an investigation of accidents and accident records was made.

### STUDY III. SUBJECTIVE OR CLINICAL STUDY OF ACCIDENTS

Coöperation for this study was generously given. The problem of accident prevention has been a real one for transportation companies all over the country. Every effort is being made to prevent accidents. New signals are being experimented with, new types of equipment designed especially with a view toward safety; new rules are made, and demerits freely applied. The human factor, however, has been grossly ignored.[5]

The study began with interviewing motormen who had serious accidents as soon as possible after the accident had occurred. The purpose of the interview was to determine whether or not there might be causes operating which could not have been foretold by

[5] Boyd Fisher. *Mental Causes of Accidents*. Boston: Houghton-Mifflin, 1922.

any objective test, and was conducted in an informal manner, but with a definite outline in mind. The aim was to arrive at the answer to such questions as these:

1. Was there any physical condition, temporary or permanent which might have been a contributing cause?

2. Were there any mental conditions which distracted his attention from the job such as worry, revery, or some temporary distraction?

3. Were there any emotional factors present which interfered with his reactions, such as anger, dislike of his work, general unhappy state of mind, and the like?

4. Was there anything in the conditions under which he had been working which might have been a contrib-

THE MILWAUKEE ELECTRIC RAILWAY AND LIGHT COMPANY

TRANSPORTATION DEPARTMENT

PERSONAL INTERVIEW FORM

Name.....Badge Number.....Date.....
Station.....Run.....Hours on Duty.....
Entered Service.....Years in Service.....Demerits for violations per year.....

*Accident record:*
- Total accidents per year.....
- Number of accidents for which he was blamed.....
- Demerits per year.....

*Types of accidents:* Class.....Number.....Class.....Number.....

*Personal data:*
- Home Address.....Own?....Rent?....
- Married.....Age of children.....Other dependents.....
- Born.....Raised.....Schooling.....
- Former kinds of work.....
- Economic status.....
- Health.....
- Home conditions.....
- Interests.....
- Difficulties.....

Refer to: Social Service.....Medical Department.....Other.....

*Analysis of accidents:*
- Reason given by motormen.....
- How it could have been prevented.....
- General causes of accidents.....
- Suggestions for improvement.....
- Attitude toward job and company.....

*Impression of interviewer:*
- Causative factors of accident.....
  1. Personal.....
  2. Non-personal.....
- General impression of personality of motormen.....

Signed.....
Psychologist

FIG. 3

uting factor: long hours, shifting too frequently from one type of equipment to another, etc.?

5. Did the fault lie entirely outside of himself, and was the accident due to factors over which he could have exerted no control, such as defect in the equipment or rails, to which adjustment could not have been made, or to carelessness on the part of another, etc.?

Other factors of importance, not directly connected with the accident, were also investigated, such as the general background, the interests, the ambitions, the attitude toward the company and his job, and whatever suggestions he might have for improving the conditions under which he worked (see fig. 3).

The interview served a two-fold purpose. First, it gave the psychologist a clear idea of the personalities of the motormen, and suggested possible subjective causes of accidents. And secondly, since a duplicate of each report was sent to the Superintendent of Transportation, it brought before him certain human problems connected with the operation of street cars.

This study is still going on. The results of the interview, which usually takes from an hour to an hour and a half, proved so helpful in individual cases that they were continued for a time as routine, and have tended to become more of a clinical study. Two men are sent from the various stations each morning regardless of whether or not they have had any recent accident. Up to the time of writing some seventy-five motormen have already been interviewed. The men without accident records will constitute a control group. Motormen who are having difficulties are referred to the appropriate department, medical if complaining of their health, welfare if there are family problems, and to the executive of the department if they are dissatisfied or unhappy in their work.

### *Results of preliminary study of accidents*

Of the seventy-five so far examined, twenty are men who were sent in shortly after having a serious accident. This group of twenty can be divided into three sub-groups: (1) *those who were obviously to blame for the accident;* (2) *those who were partly to blame;* (3) *those who were entirely free from blame.*[6] A short summary of each of the twenty cases is given below. The same interview outline was used for all of the men. One outline is given in detail. Only interesting and significant factors have been selected for the summaries:

[6] The criteria used for fixing the responsibility were: (*a*) the description of the accident as given on the accident record sheet, (*b*) the story which the motorman himself gave, and (*c*) the fact of whether or not demerits were given for the accident. In some cases the motorman admitted responsibility. In some cases they were able to point out how they might have avoided the accident. In other cases, the investigation bore out the statement of the motorman that the accident could not have been avoided by him. No case has been included in this study in which sufficient evidence was not available for classifying the accident into one of the three above named categories.

GROUP I. THOSE RESPONSIBLE FOR ACCIDENTS

1. J. S.

Name———————— Badge No.: 95.

Age: 56. Date: 1/30/25.

*Personal data:*

Home address.....

Civil condition: Married,

Schooling: Grade school.

Place of birth: Hartford, Wis.

Former kinds of work: Machine work.

Economic status: Owns home.

Health: Tremor of hands. Uses glasses for reading.

Home conditions: A son who gave him a great deal of trouble, recently died. Has been very much upset over son's death.

Interests: Reads newspaper, and works around the house.

*Motorman selection test:*

Reactions during the test. Movements slow, especially in combining hands and feet. Not enough energy in movements. Could not remember signals. Had a great deal of trouble with light signals. Memory very poor. Attention wanders, has difficulty in keeping his mind on the test. No insight into his errors, thinks he is doing very well. Training had to be repeated, 3 series.

Score: 48 errors. Very poor. Forms incorrect habits of response easily. It is very difficult to break him of a habit once it is formed.

*Attitude toward job:*

Likes work very much. Thinks he is a good operator. Loyal to company.

*Possible causative factors of accident:*

Physical. Pronounced tremor of hands. Poor vision.

Social: Worry and depression over son. Says it has been on his mind right along.

Psycho-biological: Poor muscular coordination. Slow reactions, difficulty in teaching him new responses. Inattention. Poor memory. Low intelligence.

2. L. B. Not satisfied with job. Wife objects to his working nights. Father very ill. Motorman worried for fear father will die any minute. On day of accident, overslept, alarm did not go off, went to work irritated at being late. Accident happened at 8 a.m. soon after he had started to work.

3. H. K. Used to be mail carrier. Doesn't like job of motorman very much but had to take it as he had been having trouble with his feet from previous job. Health not very good. Gall bladder trouble. Now taking some kind of patent medicine. Worried about daughter. Her husband deserted and left her with two children. She is living with father. She is ill and needs operation. Motorman says he thinks about these things and worries while he is working. Motorman Selection Test Score: 32.5 errors. Reactions slow and inaccurate, easily distracted. Attitude toward job not enthusiastic.

4. C. S. Home conditions good. No worries. Health good. Saving and comfortable economic condition. Motorman Selection Test: 29 errors. Repeats 12. Very slow to learn. Quiet, timid, little self-confidence. Mentally very dull. During test was "nervous and fidgety, forgets quickly, self-conscious, blunders, gets confused, needs much encouragement." (His accident was a very serious one. During a heavy fog he had a head-on collision with another car. He was clearly to blame because he was going too fast, and because of his dull mentality and inability to adjust himself to a situation quickly, was unable to gain control of his car.)

5. A. D. Thrifty, plodding fellow, very dull mentally. Operates a "one-man" car. Says, "what" to each question. Possible defect in hearing or else habit of inattention. Comprehension poor. Was sleepy on day of accident due to fact that he had taken on some extra work. Did not see the traffic signal in time. Selection Test not given.

6. E. U. Severe headaches. Some trouble with digestion. Comes from farm, is homesick for farm life. Wants to go back. Not satisfied with job, health poor. (Was examined by medical department and found unfit for service.)

7. J. K. Home conditions good. No worries. Health good. Not much sense of responsibility. Not very alert. Careless about work. Has had a long accident record. Selection Test not given.

8. F. M. Has just gone through bankruptcy, lost everything. Has been having trouble at home, wife unfaithful. Very unhappy and worried. General attitude is one of suspicion. Health good, likes job.

9. A. B. Increasing number of accidents. Health good. Home conditions good, except that he has recently lost his only child. Owns home, rents out flat. At present depressed over loss of son. Motorman Selection Test Score: 51 errors. Mind slow and inert. Visual-motor coördination poor. Memory poor. Is easily distracted and confused.

GROUP II. MOTORMEN PARTLY TO BLAME

1. C. S. Not very dependable. Drifts around from one thing to another. Good health. Owns automobile. Not very much attached to job. Interest in job not sufficiently keen to make for much feeling of responsibility.

2. H. P. Has been worried about his son who drinks and will not work. Says he thinks about it while working. Health good now but has had trouble with appendix. Still suffers from pain in side when weather changes. Not very enthusiastic about job.

3. W. D. Used to work nights. Likes it better. Says he has had more accidents since he has been working days. Traffic is heavy. Spread of duty tires him out. Each accident he has makes him nervous and worries him. Owns home. Troubled with eyes, and hay-fever.

4. P. H. Very much over-weight. 230 pounds, height 4 ft. 8 in. Home conditions good. Interests narrow. Low grade of intelligence. Says, "autos come too fast." Wants to be transferred to a work car.

5. S. W. Health good. Over-weight. Eyes smart a little. Far-sighted. Used to own home, but sold it, renting now. Had one child but lost her. Likes his job pretty well, says "I have to like it." Dull mentality.

GROUP III. MOTORMEN NOT RESPONSIBLE FOR ACCIDENTS

1. K. J. Owns home. Thrifty. Very good health. Takes daily exercises. Cautious, works hard. "I always see that I get plenty of sleep." Apparently very happy home conditions.

2. M. B. Owns home. Health good except for occasional colds. Very fond of wife and baby. No worries. Many suggestions for improvement of service and avoiding accidents. Motorman Selection Test Score: 30 errors. Took it very easily. Did well on training part, but did not pay sufficient attention to changing signals during test.

3. W. M. Good health. Takes setting up exercises. Very loyal to company. Likes job. Very pleasant home conditions. Selection Test Score: 11.7. Attentive, slow and deliberate in movements. Thinks before he acts. Alert.

4. R. V. Good health. Takes setting up exercises every morning. Apparently happy home conditions. Very much interested in job. Studies at home. Test not given.

5. A. W. Married and one baby. Father also lives with him. Owns home. Health all right except for occasional slight headaches. Plays saxaphone, wife plays piano. Home very happy. Likes job very well. Test not given.

6. C. D. Has trouble with eyes and throat (being treated). Wife's health not good. Quiet steady fellow, average intelligence. Good control. Not easily distracted. Remembers directions. Selection Test: 4 errors.

A further condensation of the more detailed interview reports is provided in table 6. The conditions have been evaluated as *good*, *poor*, and *average*. *Good* means entirely free from any kind of difficulty. *Average* refers to those cases where there were some slight difficulties, and *poor* to difficulties which were very disturbing in their effect.

TABLE 6

*Showing relation between subjective factors and responsibility for accidents*

| GROUP | HEALTH | | | ECONOMIC CONDITIONS | | | HOME CONDITIONS | | | ATTITUDE TOWARDS JOB | | | VITELES' MOTORMEN SELECTION TEST GROUP | | | | INTELLIGENCE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Good | Average | Poor | Good | Average | Poor | Good | Average | Poor | Good | Average | Poor | Good | Average | Poor | Not given | Dull |
| I. Responsible | 3 | 3 | 3 | 4 | 1 | 4 | 2 | 2 | 5 | 2 | 4 | 3 | 1 | | 4 | 4 | 2 |
| II. Partly responsible | 1 | 3 | 1 | 2 | 3 | | 2 | 2 | 1 | | 3 | 2 | | 1 | | 4 | 1 |
| III. Not responsible | 3 | 2 | 1 | 2 | 3 | | 5 | 1 | | 5 | 1 | | 2 | | 1 | 3 | |

TABLE 7

*Summary of relationship between subjective factors and responsibility for accidents*

| GROUP | NUMBER IN GROUP | GOOD | | AVERAGE | | POOR | | TOTAL ITEMS CHECKED |
|---|---|---|---|---|---|---|---|---|
| | | Number | Per cent | Number | Per cent | Number | Per cent | |
| I. Responsible | 9 | 12 | 28 | 10 | 23 | 21 | 49 | 43 |
| II. Partly responsible | 5 | 5 | 23 | 12 | 54 | 5 | 23 | 22 |
| III. Not responsible | 6 | 17 | 55 | 7 | 27 | 2 | 0.08 | 26 |

These results presented in table 6 may be summarized by adding the total number of items checked for each group, and computing the per cent of this total for *good*, *average*, and *poor*. Table 7 presents the percentage compiled in this way.

Even in so small a group the contrast among those were responsible for accidents and those who were not is marked. While definite conclusions cannot be drawn, the results are interesting. In fact the Transportation Department felt that they were sufficiently significant to warrant the expense of further interviews.

## SUMMARY

Investigation into selection procedure has shown the problem of selecting competent motormen to be very complex. Each new phase of experimentation has revealed additional factors which must be considered in the selection and training of men to be safe motormen. The first serious problem to be considered is the discovery of some criterion which can serve as a reliable check for the results of psychological tests. Supervisors' ratings are variable, and in many cases individual supervisors are in-

competent to make impartial ratings; accident records are unreliable because individual motormen differ in their conscientiousness in reporting accidents, and also because it is difficult to attach responsibility for accidents, since such factors as claims paid to the public enter into the placing of responsibility. And finally, even though one had a perfect test and an adequate check, there are always temporary subjective factors which may for the time being make a hitherto safe operator liable to accident.

### OUTLINE FOR FURTHER STUDY

The problem of selecting motormen, however, is not an impossible one. Better standards can be found than supervisors' ratings or non-weighted and unreliable accident records. Two methods of attacking this problem are now in progress. (1) All of the men who have been given the Motormen Selection Test and are still in service will be rated by a member of the educational department who has taken the entire training course for motormen and is thoroughly familiar with standard practice and safe operation. Each man, while on duty and without his knowledge, will be observed for not less than an hour at two separate times. He will then be rated on a number of separate points according to a ten-grade scale. (2) Coöperation with the safety committee has been established with a view toward working for more accurate investigation of accidents and some practical methods of weighting responsibility. It is planned to correlate the test results with each of the above criteria.

In regard to subjective factors tending to produce accidents, the personality interview which at present accompanies selection aims to eliminate the unstable individuals among the applicants.

Adequate social service for men at present employed is the only feasible method which the company can use to remedy those temporary subjective factors which may become chronic if neglected.

The work reported in this article is not wholly experimental. Practical results are being achieved in the development of a selection technique, in interpreting to supervisors and superintendents the personalities of their problem motormen, and in encouraging them to a consideration of human factors in street car operation.

# Bibliographic Research in College Personnel Management[1]

By Herbert A. Toops, *Ohio State University*

*While proposing a concerted effort to make a useful and comprehensive classified bibliography in collegiate personnel management, Professor Toops casts an eye over the area of available knowledge and finds ten vast uncharted spaces, inviting exploration by the investigator of collegiate education. Graduate students in quest of dissertation topics need look no further.*

THE writer has been interested in bibliographic research of college personnel management primarily from the view point of the research worker. For research, bibliographies are primarily of use in three ways: (1) A survey of the literature gives one a summary of what work has been done on a given topic to date and thus orients the research worker; (2) they prevent duplication of the mistakes of others and duplication of work on problems which have been adequately solved by other investigators; (3) they enable one with a minimum of effort to publish, together with his report of research, a comprehensive selected bibliography for the information and guidance of other research workers who may later continue the investigation. Thus we should conceive of each research worker as analagous to one of the bricklayers on a continental cathedral each of whom adds his contribution of bricks to a growing structure which may not be completed for one hundred years, and which will even then have later additions and remodelings.

[1] An expansion of a paper delivered before the College Vocational Guidance Conference of the Personnel Research Federation, Washington, May 22, 1925.

## METHODS OF COMPILING A BIBLIOGRAPHY

In the collection of bibliographies the question soon arises, How shall we make the bibliography comprehensive? One method, which will yield a comprehensive bibliography in some fields, is that of a careful chronological search through all issues of magazines known to contain articles on this topic. This method may be known as the method of systematic search. A second method is that of copying the bibliographies from all books containing such lists, which the compiler may have at hand, and then by reference to other books and articles thus located discover in them new bibliographies both in the

footnotes and in the formal bibliographical sections. Duplications of references are then excluded. This method may be called the method of telescoping existing bibliographies. In this second manner the writer has readily compiled over 1500 titles on the subject of vocational guidance (including in this number references appropriate to the elementary and high school levels also) and over 400 titles on the general topic of tests and measurements in colleges and universities. A combination of the two above methods would be best and would yield a comprehensive up-to-date bibliography covering the entire field. A combination of these two bibliographies with that collected by Mr. L. A. Maverick (some 600 titles only in part duplicated in the above two) would yield a pretty fairly comprehensive bibliography in the field of college personnel.

### THE NEED

It might be well to consider at the outset whether it is worth while to collect bibliographies on college personnel. One conversant with the field might with some justification say that if you are enough of a scientist as to techniques and insight you can safely overlook all that has been previously done in most fields of college education. The true state of the technical progress in the field of college education may be roughly summarized in the following statements (which need of course full verification before acceptance). In the United States in 1921–22[2] there were 50,000 instructors in colleges and universities. It is reasonable to suppose that only a very small fraction of these have ever had any professional training for the specific job of teaching. Most of them of course have had much specific training in subject-matter; obviously however, but few have taken any courses in the history of higher education, the administration of higher education, the philosophy of higher education, incentives at the collegiate level, the pedagogy of higher education, the vocational guidance of college youth; or the corresponding courses on the collegiate level which are felt to be very essential to the adequate professional training of elementary and high school teachers. The feeling that all you need to know in order to teach in college is "an adequate command of your subject" can be said to be all but universal at the present time. Another test of the lack of development of the field would be to ask any group of college instructors or any group of college administrators to attempt to name as many as five books dealing specifically with collegiate education under any of the heads noted above. Consequently, we may conclude that the late date of entrance of research workers into the collegiate field and a corresponding surplus (if it is possible to have a surplus) in the elementary and secondary fields, is due to the expenditure of effort of collegiate research workers, educational psychologists and the like, in these fields of education rather than in their own fields. In the past the loss of the one has been the gain of the other. This situation is being

[2] United States Bureau of Education—Statistics of Universities, Colleges, and Professional Schools, 1921–22, Bulletin No. 20, 1924, p. 1.

rapidly sensed by colleges with the result that at least three universities in the country will be giving courses in the administration of higher education in the year 1925–1926. An actual survey of the situation might show a greater spread than this; at best, however, three or a half dozen courses in the administration of higher education are but the merest drop in the bucket compared with the amount of training required by the present 50,000 instructors, or even by the annual recruitment to the collegiate teaching ranks (granted the gratuitous assumption that all of the present 50,000 instructors have become fully professionally trained through dint of hard experience).

### CLASSIFICATION FOR USERS

In the preparation of a comprehensive bibliography of this type one should attempt to secure all references now available in all fields of college personnel. The task at this time is not an impossible one. It will become harder and harder as time goes on. From the comprehensive bibliography thus obtained a number of bibliographies should be constructed depending upon the intended users:

1. *Students' bibliographies* intended for the education and information of a student interested in securing vocational and educational guidance and information, and in certain other college topics of general student interest.

2. *Instructors' bibliographies*, which should probably contain all the items of number 1 and in addition a part of number 3, as well as certain other topics of interest primarily to the teacher.

3. *Counselors' bibliographies* including references of interest to deans of men and deans of women, vocational and educational guidance counselors and student advisers.

4. *Research workers' bibliographies*, dealing primarily with techniques and sources of original data and information.

5. *College administrators' bibliographies.*

Inasmuch as the number of references on collegiate education generally is so small at the present time it would be a fine plan if a bibliography inclusive of all phases of college education could be collected. A bibliography on history of collegiate education, for example, would add but little to the bibliography on personnel.

Once such a bibliography is obtained there will be need for keeping it up-to-date by means of such devices as an abstracting service and a sale of reprints of articles in the field by some central agency. The proposed abstracting service of the American Psychological Association may be expected to handle a certain proportion of the material.

The sale of reprints by the Personnel Research Federation, for instance, would be of inestimable value in forwarding progress in the introduction of college courses along any of the lines indicated. With all the literature on a given topic, say motivation of the college student, for example, available chiefly or only in the magazines, the only text-book which can be assembled is that of

reprints. The other alternative is the customary resort to library assignments, usually a very unsatisfactory procedure. In many of these fields the writing of text-books is scarcely worth the while at the present time inasmuch as the fields are advancing so rapidly that any text-book now written would shortly be out-of-date. The sale of reprints would largely relieve the author of the responsibility of distributing reprints to his friends. In consequence of the lightening of the financial burden of publishing, he might be quite glad to pay more for his subscription to the magazines in order to cover part of the over-head charges of distribution of reprints. Reprints are thus distributed by the National Mental Hygiene Association and the American Medical Association. A standardization of the size of pages of magazines carrying personnel research topics would be one line of marked improvement for the advancement of such work.

The minimally acceptable research result is the comprehensive collection of all available titles, the classification according to the intended users into a number of distinct bibliographies, and the further sub-classification of each according to subject-matter. The desirable end is the complete evaluation of each reference with respect to a definite number of check items contained in a uniform outline. The evaluation for the reader of each reference may be recorded in code letters used to designate the status or value of each reference in regard to such factors as recency, technical worth, availability for furthering research, principles, difficulty, etc. The task is too large for a small committee even with the limited number of titles now available, and requires either an adequate appropriation for the support of the work or the farming out of titles to competent research workers for annotation.

### DEFICIENCIES IN AVAILABLE COLLEGIATE RESEARCH

The available bibliographies show a dearth of published material in the following important fields of collegiate research:

1. What constitutes success or progress? The purpose of collegiate education, as of all education, is to effect changes in individuals. The success or lack of success of this attempt is customarily measured by scholarship, vocational success, avocational success both in the university and after. Obviously until we know what we mean by success, the construction of tests, the use of rating scales and interview methods, and the success of guidance methods, cannot be checked up. It is interesting to note that in the long run (twenty years after graduation from college) one's success in the vocational world is customarily assumed to be the measure of whether his college education was successful or not. If we pick up almost any university catalog we shall find that, roughly, nine out of every ten colleges have curricula which are vocational in intent. We need to cite merely the law school, divinity school, medical school, agricultural college, college of commerce, dentistry school, pharmacy school, etc.,

as examples in point. The Arts College, the remaining vestige of a one-time cultural education, is rapidly becoming merely a reservoir for the first two or three years of a student's career for such occupations as medicine and law or other occupations which have found it desirable to limit the number of entrants to the occupations in the avowed interest of better preparation and in the obvious interest of limitation of numbers entering the profession.

In the apparently simple case of determination of success as a student —scholarship—we obviously need improvement when the average reliability coefficient between first semester and second semester college grades is only 0.66. We need to know what scholarship marks shall be taken into account in forming a scholarship criterion score; whether physical education marks and military marks shall be contained in our scores by means of which we are hoping to select the best of a number of proposed intelligence tests, or elect students to Phi Beta Kappa and other honorary societies, for example. We need to standardize on the number of semesters to be included in a criterion score since, obviously, we can make a better prediction of the student's career through several semesters than of his career in any single semester. We need to standardize on the method of combining marks, since both quantity and quality of work are variables. We need to standardize on the statistical treatment that shall be accorded the marks of students who drop out without acquiring a portion of the scholastic marks accrued by those who remain throughout the period considered. We need to know whether intelligence tests may be expected to correlate with mathematics, with economics, with music, with art and with shop-work, and which of these subjects shall be included in the scholarship criterion score and with what weights. It is well to note in this connection that colleges have in the past collected and published but a few shreds of information by means of which we may even obtain an adequate picture of college success—statistics of elimination or mortality, of attendance, transfer, survival. We cannot commend too highly the recent efforts of the University of Minnesota[3] in this direction.

2. What incentives operate in the case of college students, and what are the laws of the growth and decay of motives and the appeal of incentives?

*a.* What is the effect of extra-credit in hours for superior quality of work?

*b.* What are the values of "honor courses"?

*c.* Does probation act as an incentive to improvement? Are there ever any sudden reformations in scholastic character? What is the value of a dean's summons in improving scholarship and of educational and vocational guidance interviews?

*d.* What is the value of the life career motive with respect to the

[3] Bulletin of the University of Minnesota. *Student Mortality.* March, 1924, Vol. 27, No. 8, and *Student Survival,* February, 1925, Vol. 28, No. 4.

quality of scholarship and attitude of the student?

*e*. What are the true implications of work for self-support, "activities," athletics, of rooming with a non-studious room-mate; of fraternities, and sororities, clubs, and of formal, graphic or other motivating pedagogical devices? With respect to the above we have much contradictory evidence in the available literature. We need also to know what is the adequate test of motivation; to be able to say whether a given student is working up to capacity, or not. It is evident that the magnitude of the correlation between an intelligence test and scholarship is not an adequate test of motivation of even a group in as much as ordinarily the tests were so constructed as to correlate with scholarship; and, if the tests are not made to correlate with scholarship, what guarantee have we then that they measure intelligence or anything else worth measuring?

3. What is the relative difficulty of various courses, departments and curricula from the point of view of a known level of intelligence. If specialization of ability counts for anything and if the general level of intelligence has any significance then obviously a student may be able to succeed in one occupation or curriculum while failing in another. At the present time we know little, other than popular hearsay evidence, whether mathematics is really harder than French, and French than economics. Adequate guidance surely consists in the adaptation of capacity to difficulty of environment.

4. Results of experimentally controlled vocational and educational guidance including follow-up of careers of students advised. It is obvious that students may succeed in the world without guidance, and that the subsequent success of students advised is by no means proof of the efficacy of the guidance. The argument here is the same as that with respect to the value of education generally; the average wages of college students show that they are more successful than the average of high school students, and high school students in turn are more successful than those who stop with grade school graduation or with a portion of a grade school education. This by no means proves the value of the education, since it is well-known that the average intelligence goes up along with the education and that consequently the college graduates would probably have been more successful than their grade school and high school brothers even if they had not gone to college. (No one knows whether more successful or less; we like to hope less, such is our faith in education.) We are at a point in our history where we need facts and truth with respect to such matters rather than the hitherto customary propaganda. It is important to note that the success of such follow-ups depend absolutely upon previous or concurrent solution of the above problem of the constitution of success. In addition to a solution of these specific problems in guidance, we need a thorough scrutiny of our methods of measuring individuals and of measuring jobs. Specifically we need researches to establish the degree or

extent to which intelligence test scores and "intelligence" are influenced by practice and repetition. What would be the effect of 5 hours, 20 hours, 500 hours, 5000 hours, of practice in taking intelligence tests of every conceivable variety or of similar lengths of stimulation of "intellect" or of total absence of such stimulation? Again, what are the unique aspects of jobs—the minimum number of measurements of a job which shall give us a maximum of information about it?[4]

5. The result of controlled pedagogical experimentation on the collegiate level. Sectioning of students, on the basis of assumed ability for progress for example, has had a wide adoption. There are few reports of the effectiveness of such sectioning.

6. What are the unique traits of human nature, when reduced to practical working scales that may be applied by the general run of vocational counselors after a minimum amount of training? The task generally of personnel research work may be said to be that of determining the unique facts of human nature in order that by measuring a human individual we can predict his future behavior in an actual or assumed situation. This involves the determination of those traits which correlate as near zero as may be with each other and each of which correlates positively, preferably highly, with at least one social, vocational or other criterion of success. The apparently unique tests available have all been derived by experimentation on children in grade schools, in whom the effects of unequal practice or of lack of practice may in considerable degree be the predeterminer of the uniqueness found. In the case of adults we have individuals who for the most part have acquired certain habits which will remain relatively fixed throughout their lives. Consequently the matter of practice, if not to be disregarded, is at least probably a more nearly constant and determinable quality. Obviously however, no amount of research based on the intercorrelations of traits will quite take the place of a much more crucial experiment of seeing whether, given optimal learning conditions, dull people cannot learn difficult subjects; "inferior" races surpass "superior" races and non-gifted surpass the gifted if the latter in each case are not equally well provided for by means of environment. This in turn means a great need for revision of text-books, introduction of scientific curriculum construction, changes in pedagogical methods, new emphasis on practice versus theory, and for student self-judgment as versus teacher-judgment in the measurement of scholastic merit.

7. Statistical studies of the values of information collected on personnel blanks and forms. Surely much worthless information is now collected, thus taking up time which might be used to more advantage in collecting useful and desirable information. What are the unique items of information to be asked upon the person-

[4] Toops, Herbert, A. *The Need for Norms in Vocational and Educational Guidance.* Vocational Guidance Magazine, December, 1924, Vol. 3, No. 3, p. 90, on *Norms of the environment.*

nel form? And finally, how make this generally available?

8. The effects of prescription as versus more or less free initiative. Most curricula, for instance, are constructed on the theory that those who constructed them know the "essential preparation" for which the education is designed. The result in many cases is the selection merely of traditional courses and departments and involves no adequate job analysis of the situation, little adaptation of means to ends, and frequently totally disregards the specialization of abilities which may exist in individuals. Specifically, it would be interesting to know what difference in the traits of doctors we should have if the clinical work were given in the freshman year while the zoology and anatomy were given in the sixth year. The two courses would eliminate different students in part at least. What aside from convention, really is the basis of many sequences in college work? To what extent are early eliminations from college the results of fixed requirements in subjects which require special aptitudes or unusual amounts of prerequisite and often remediable preparation—languages and mathematics for example—and not the result of low mentality or low general ability? Would the average level of ability of surgeons be higher if we passed those students who have superior coördination of muscles of the hands but who have little interest or ability in learning the Latin names of obscure muscles, bones, arteries, etc.? The greater realization of the significance of specialized capacities and their effects on retention and elimination of students may be expected to be effected by use of the profile method which shows up the significance of a student's several scores on variables in terms of norms on each, and may be used in case each sub-test has as high a reliability as present scales, namely a reliability coefficient of 0.9 or higher. This in turn indicates that most present measures of human capacity, need to be made much longer and frequently much more difficult in order to adequately measure traits on the collegiate level.

9. Critical evaluation of "movements" in collegiate education.

*a.* The junior-college movement.

*b.* The intelligence testing movement.

*c.* Zero courses.

*d.* Credit for quality of work.

*e.* Abolition of class attendance (English system), etc.

10. Studies illustrating salvaging or efficiency methods of personnel research. Not only do we need researches for their own sake but we need researches in research methods in order to find the most efficient means of saving the research time of research workers, or from another view point, of increasing the effectiveness of a given amount of research time. In the past, personnel research in colleges, for the most part, consisted in the investigator's devising a new test, labeling it, giving it to a small group of students and reporting the distributions and frequently the validity of the test in predicting an unknown conglomorate of scholarship. Several scores of other factors,

not found in intelligence tests and scholarship records, may readily be found for any student within the records of the several administrative departments of the university; such things as physical measurements and abnormalities, intelligence and scholarship of room-mate, subscriptions to papers, athletics, etc., the strenuousness of athletics elected when such are a matter of election, class attendance, participation in social events, club membership and the like. Miss Ferguson, a graduate student of Ohio State University has found sixty-five variables which were complete in the case of some thirty students each of the two contrasting groups:

A. Students of low intelligence but of high scholarship.

B. Students of high intelligence but of low scholarship.

Such groups of students owe their position in a correlation scattergram between intelligence and scholarship primarily to *traits other than intelligence*. Consequently an intensive investigation (involving sixty-five variables or more) in the case of two groups so chosen may result in far greater dividends in point of determining the *identity* of some of the now unknown "character qualities" than would extensive investigation, involving testing a large number of subjects on a few additional traits only. This method is substantially a method whereby trial and error is reduced to a system. If we can but say that certain traits have no bearing on the problem we have accomplished much, if on the other hand we can discover one or two measurable traits which will increase the efficiency of the prediction of scholarship from intelligence alone we have accomplished quite as much as we may hope from other than an analysis of the situation by a genius. Bibliographies are singularly wanting in titles which report on such salvaging methods and on experimentally determined measures of the comparative efficiency of various research methods.

The salvaging of results from the hundreds of intelligence tests which have been given in past years can be accomplished by adequate follow-up probably uncontemplated by the research workers at the time of making the measurements. As a very obvious case it will shortly be time to have a follow-up by many colleges of the results of the intelligence tests which have been given in some universities for six or more years now, so that as many as 20,000 intelligence test records are available in the vaults of some universities. Thus may we determine the probabilities of failure in specific courses, departments and curricula and just what is the selectivity as to intelligence which prevails in elimination, probation, honor scholarship, continuation into graduate work, literary productivity, etc.

This summary of missing bibliographical topics indicates that the real task of personnel research in colleges has scarcely begun. No one can say that with the few hundred titles now available the surface of personnel research in colleges has even been scratched. No capable student adequately equipped, or even ill equip-

ped, in research methods need have a fear of being unable to locate for years to come a thesis or dissertation topic of prime importance in this broad field.

(Manuscript received June 17, 1925.)

# Book Reviews

## WORKMEN'S COMPENSATION INSURANCE

*By G. F. Michelbacher and Thomas M. Nial. New York: McGraw-Hill Book Company, Inc., 1925. Pp. xi + 503*

REVIEWED BY C. S. YOAKUM

The reviewer recognizes his inexpertness in this field. He has felt, however, that if he can read and enjoy and get profit from the book, one of the first on this topic, there is more to be gained by those familiar with the subject or by those who are brought in daily contact with the problems discussed.

The book is divided into three parts, though it really has four; since every one of the twenty-three sections in the appendix is of value to the personnel man, either as an exhibit of data or as an illustration of standard procedure. The three formal divisions discuss "Injuries and their Prevention;" "Methods of Indemnification for Industrial Injuries," and "Workmen's Compensation and Employers' Liability Insurance."

The first section is too short. The authors make the point that insurance is a safeguard, but that prevention is by far more valuable to the individual and society. Prevention doubtless had to be left with this short discussion in order to cover the task of the book within proper limits. To a psychologist the comparatively long discussion of Boyd Fisher's study of mental causes of accidents is of interest. Too long we have assumed that some sort of an instinct or supernatural agency expressed in vague phrases such as "self-preservation" carried us through the new varieties of hazards as fast as they appeared. The ingenuity of man has pitted itself against itself in war, but in peace we seem to have assumed that the "natural" man could cope with any new hazards that might arise. The authors hold that prevention is of equal importance in invention of new dangers. Meanwhile insurance and compensation aid in the amelioration of economic effects of misfortune.

The book as a whole attempts to summarize the main historical facts leading up to existing conditions in compensation and liability insurance. Copious references are given to the literature and the historical facts presented are in the main adequate to give a balanced setting to the discussion. Considerable material is given covering the differences in methods of compensation. One feature of this study is especially well done. The few principles to be found in legislative results are brought out as clearly as those results permit. The contracts presented are even suggestive of trends in the direction of improvements to come.

It is a question whether Part III follows the earlier sections or not. The outsider is given a glimpse of certain inside problems of the insurance carriers. In one respect, this section is disappointing. It is not a legal document. It is not an actuarial report. Nor is it a text on underwriting and relative advantages of the different classes of insurance carriers. All of these topics are discussed. The authors have presented many interesting data on these topics. It is a question open to any one covering so many details, to solve: How shall an adequate presentation be made? In this case we judge the major principles have been examined. Clearly standardization is only

begun. Compensation is most cheaply handled by public organization. Is it cheapest?

Certainly Part III has made an unusual amount of data available to the general reader. Nevertheless the casual reader will not find the same type of reading he found in the earlier sections. The terminology changes. The authors are on ground familiar to them, but not familiar to non-insurance specialists. We recommend its reading, if only to catch a glimpse of the relation between statistics and judgment (pages 297 and 298, for example). The importance of prevention becomes clearer as one reads over the problems of a just compensation for injury, or becomes involved in methods of setting standards or rates.

The tone of the study is even. Employee, Employer, and Carrier are treated with respect. Even the much abused state official is apparently performing his work according to rules and interpretations to the best of his ability. There is in the volume none of the advocate for any of the so-called classes. It is a careful attempt to state the existing status, to point out advances and improvements, and to weigh evidence in unsettled questions. It should be in the hands of all interested in industrial and social problems.

## THE GROWTH OF AMERICAN TRADE UNIONS, 1880–1923

*By Leo Wolman, with a foreword by Wesley C. Mitchell. New York: National Bureau of Economic Research, Inc., 1924. Pp. 170*

REVIEWED BY CARTER GOODRICH

Dr. Leo Wolman's slim volume on "The Growth of American Trade Unions" represents much more than the accomplishment of a difficult statistical task; it provides also both the essential equipment and the definite stimulus for the further exploration of an important field. Its value lies not only in the facts that it gives but also in the hints that it throws out; for, although it is for the most part held within the limits of the bare and objective presentation of data that the National Bureau of Economic Research has set for its publicatons, facts themselves are hints when so skillfully arranged, and the author drops by the way a number of suggestions that point far beyond the confines of the present book.

The main contributions lie in chapters one and three. The former gives not only the gross figures of union membership from 1880 to 1923—tentatively for the early struggles between Knights and Federation, and more confidently after 1897—but also an interesting series of charts displaying the fluctuations in particular groups of unions, and an especially careful analysis of the exciting years following 1915—years in which the union movement doubled its membership to reach the five million mark in 1921 and then lost half its gains in the post-war depression. Of even greater interest, however, is the third chapter in which, by the aid of the Census of Occupations for 1910 and 1920, these figures are turned as nearly as may be into the batting averages of the union movement—membership totals being expressed as percentages of the number of wage earners in industry as a whole and in various industrial groupings. From this chapter the general reader is most likely to take away the round figure of 20 per cent organization in 1920—the corresponding figure in 1910 was about 10 per cent and the present would be nearer 15; but the student is likely to find even more significance in the detailed tables showing the wide variations in the degree of organization from industry to industry.

The author is abundantly justified in claiming that this material, and particularly the last, "discloses problems and explanations" of great importance. Perhaps it is fair to add that it discloses more

of the former than of the latter. One such problem, indeed, that of the organization of women, is admirably handled by Mr. Wolman in a fourth chapter; but many others crowd forward in the reader's mind. What are the sources of the great differences that the figures reveal? Why, for example, does the "extent of unionism in manufacturing industry run the whole gamut from less than 1 per cent of organization in the chemical and allied industries to more than 57 per cent in clothing?" What sorts of industries are those that are near the non-union end of the gamut? What sort at the other end? The author drops only the hint that it is the "great basic" manufacturing industries that are only slightly organized. A hasty comparison of the Wolman groupings with the classifications that most nearly correspond to them in the Census of Manufactures suggests that industries that are below the average in capital invested, and in the number of horse power per worker, are likely to be above the average in unionization. More careful study would doubtless show other correlations. Are there explanations to be found by a search in this direction? And if so, are the sorts of occupations that are most "accessible to unionism" likely to increase or to decrease in relation to industry as a whole? What other causes are there for the great fluctuations in the labor movement, and for the differences in fluctuations from trade to trade? And above all does the resultant of these various forces seem to suggest the likelihood of growth or of decline for the movement as a whole? Here again the book leaves the reader curious and anxious for more. It is true that a fairly long list of suggested causes of "fluctuations up and down"—including the business cycle, of course, the slackening of immigration, various acts of government, "the inroads of machinery" in a number of cases, the impetus of war-time gains, and the possibility of contagion from more highly unionized countries; but apparently not including the influence of the special American devices for circumventing union organization—could be culled from scattered references in the text. But the problems involved are of such great importance, and the author's hints are themselves so suggestive, that the book leaves the reader with an insistent demand for a sequel that would discuss systematically these and other "sources of union strength and weakness" and that in the light of them would attempt to assess *the prospects of unionism in the United States*. But such a book could not be written except on the foundations laid in the present study, and it goes without saying that the work could best be carried on by Mr. Wolman himself.

## ECONOMICS OF FATIGUE AND UNREST AND THE EFFICIENCY OF LABOUR IN ENGLISH AND AMERICAN INDUSTRY

*By P. Sargant Florence. New York: Henry Holt and Company, 1924. Pp. 426*

REVIEWED BY HARVEY A. WOOSTER

There are few better illustrations of the scientific spirit and the application of scientific method to the human problems of industry than this volume. It is not only the best collection of statistical data bearing on variations in the productiveness of groups of workers; it is also the most painstaking interpreter of such data.

The title is not wholly accurate, for the central thesis is in reality not the familiar interpretation of fatigue as a cause of industrial inefficiency, but rather the possibility of controlling the main sources of labor inefficiency, whether due to fatigue and unrest or not. The author purposely refrains from any discussion of the psychophysiological nature of fatigue, choosing rather to define industrial fatigue and un-

rest provisionally and for practical purposes, "as diminutions in human capacity and willingness to work associated with certain industrial conditions." The assumption that fatigue and unrest are the main sources of decrease in willingness and capacity to produce appears as a working hypothesis, to be tested in the light of the facts, but it is kept in the background, in order to avoid the fallacy of using the thing to be proved as the proof of its own existence. In the major part of the volume in which the data are presented and interpreted all use of the terms fatigue and unrest is carefully avoided. Given a sufficient quantity of data properly selected and verified, an orderly arrangement of them in proper sequence, and a working hypothesis with which to test them for cause and effect relations, there exist all the necessary preliminary steps to the scientific solution of a problem. No writer has stated the problem of declining labor efficiency so squarely in this form or so clearly, logically, and adequately as Florence, and it is this which constitutes, in the reviewer's judgment, the main contribution of this book to the literature of labor problems and personnel management.

In a stimulating introduction (Part I) which constitutes about one-third of the volume, the author explains the nature of the problem as a product of the industrial revolution, and the reasons for the failure of some of the leading efforts to solve it. He sets forth the theory of fatigue and unrest as a conditioning hypothesis to be tested by the facts, and suggests an extension of the principle of joint control as a necessary part of the solution. These chapters show keen insight into the underlying nature of labor difficulties, with a considerable bent toward liberalism, even laborism in the British sense; but the meat of the volume is found in the longer Part II. Here are the data by which to test the theory of Part I.

Overlooking the short chapter on the nature of business costs, Part II consists of an analysis of most of the best known data from English and American experience concerning the losses inflicted upon industry through excessive labor turnover, absence from work, deficiency in quantity and defective quality of output, industrial accidents and ill health, followed by a summary chapter in which the important bearing of these data on the theory of fatigue is very briefly discussed. A uniform and exceedingly effective mode of analysis is applied to each of the sources of loss just mentioned. The nature of the loss is analyzed, the average loss in various industries recounted if known, an estimate is offered as to what may be considered a minimum economically unavoidable, and all the evidence examined to discover how much of the loss actually found is greater than the minimum and is preventable by the adjustment of specific conditions of employment. This part of the book is especially recommended to the personnel man as a mine of information and an unfailing stimulus to his own thinking on all phases of his work. Not much of the material is new, but it is subjected to unusually well-balanced scientific analysis and much new light is thus thrown upon it.

Florence concludes that there is an "intermediacy" of fatigue and unrest in industry, (the former explained earlier as a factor in decreasing capacity and the latter as one affecting willingness to work), which affects the variations in efficiency noted in the preceding chapters. The practical policy is, so to adjust conditions of work as to minimize both fatigue and unrest. This can be done only through a complete understanding of the situation in its historical aspects as well as its technical and economic phases, and a recognition of the fact that industrial conditions are variable and labor inefficiency variable with them. The policy of action must be controlled by accurate records.

## THE BOY AND HIS VOCATION

*By John Irving Sowers. Peoria: The Manual Arts Press, 1925. Pp. 198*

REVIEWED BY THOMAS DIAMOND

This book is a valuable addition to the publications designed to help boys select their occupations more intelligently. Each chapter deals with a problem which comes up sooner or later in every normal boy's life. It is written in a manner to attract and hold the interest and to satisfy the boy's desire for facts not commonly known. Very definite suggestions are offered in regard to the relationship between health, education, and good citizenship, and one's efficiency in his occupation.

The book could be used profitably as a class reader where the teacher is interested in the task of guiding children. Questions at the end of each chapter serve to stimulate thought and will be most helpful to the instructor who strives for free discussion in his classes.

# Books Received

*Personal Leadership in Industry.* DAVID R. CRAIG AND W. W. CHARTERS. New York: The McGraw Hill Book Co., Inc., 1925. Pp. xiii + 245. $2.50.

*Linking Science and Industry.* Human Relations Series, II. A Symposium with an introduction by Henry C. Metcalf. Baltimore: The Williams & Williams Co., 1925. Pp. 206. $3.50.

*The Child, The Clinic, and The Court.* A Symposium on Juvenile Delinquency, by JULIA LATHROP, WILLIAM HEALY, MIRIAM VAN WATERS, FRANZ BOAS, JOEL D. HUNTER, BEN B. LINDSEY AND OTHERS. New York: New Republic, Inc., 1925. Pp. vi + 345. $1.00.

*The Regularization of Employment.* H. FELDMAN. New York: Harper & Bros., 1925. Pp. xvi + 437. $3.50.

*Employer-Employe Relations in Hotels.* W. I. HAMILTON. Baltimore: The Williams & Williams Co., 1925. Pp. xii + 158. $3.00.

*Health Maintenance in Industry.* J. D. HACKETT. Chicago: A. W. Shaw Co., 1925. Pp. xx + 488. $5.00.

*The Psychology of Selecting Men.* DONALD A. LAIRD. New York: McGraw-Hill Book Co., 1925. Pp. 269. $3.00.

*Fundamentals of Business Organization.* WEBSTER ROBINSON. New York: McGraw-Hill Book Co., 1925. Pp. ix + 230.

*The Crisis in Psychology.* HANS DRIESCH. Princeton: Princeton University Press, 1925. Pp. xvi + 275. $2.50.

*Psychology, A Study of Mental Activity.* HARVEY A. CARR. New York: Longmans, Green & Co., 1925. Pp. v + 432.

# Abstracts

*Some Aspects of Personnel Research in a Manufacturing Organization.* J. W. DIETZ. Annals of The American Academy of Political and Social Science, May, 1925, Vol. 119, No. 208, pp. 103–107.

Lists the policies of employee relations that are the foundation upon which the research program of the Western Electric Company is built. Some of these policies illustrate the scope and conception of the personnel program:

1. To pay all employees adequately for services rendered.
2. To maintain reasonable hours of work and safe working conditions.
3. To provide continuous employment consistent with business conditions.
4. To place employees in the kind of work best suited to their abilities.
5. To help each individual to progress in the Company's service.
6. To aid employees in time of need.
7. To encourage thrift.
8. To coöperate in social, athletic and other recreational activities.
9. To accord to each employee the right to discuss freely with executives any matters concerning his or her welfare or the Company's interest.
10. To carry on the daily work in a spirit of friendliness.

The problems of personnel research are of two kinds: (*a*) Problems of Administration, or those which deal with the formulation of policies; (*b*) Problems of Management, or those which deal with the execution of policies. Examples of research projects in each of these fields are described.

The organization for research consists of a General Personnel Committee which maintains a full time staff under the direction of the secretary. This official makes the necessary contacts and carries on the research that is fundamental to both the formulation and execution of policies.

Concludes that the place of research in business organizations is daily becoming more established, and that research in the social sciences is now receiving increasing attention and will take its place just as research in the physical sciences and economics have. Problems of vital importance to manufacturers include:

1. Fundamental aptitudes and capacities of individuals.
2. Possibilities and limitations of individual development along certain lines.
3. Fitting the handicapped into suitable work.
4. Supplying incentives for workers to make maximum use of their capacities.
5. Organization of work to make possible the fullest use of individual ability in coöperative effort.

*The Cost of Compensation for Industrial Accidents.* JAMES A. HAMILTON. Industrial Bulletin of the New York State Department of Labor, June, 1925, Vol. 4, No. 9, pp. 212–214.

In the year ended June 30, 1924, in New York State, closed, or final, awards of compensation were made for 72,983 industrial accidents including 1,109 fatal cases, 22 permanent total disabilities, 15,526 permanent partial disabilities, and 56,326 temporary disabilities. If an accounting of the total money cost of these accidents be made it will show the following approximate results:

| | |
|---|---|
| Compensation (actual present value) | $26,398,166 |
| Medical benefits (estimated) | 6,500,000 |
| | $32,898,166 |
| Compensation administrative expense (insurance and state, estimated) | 16,400,000 |

| | |
|---|---|
| Wage loss of injured employees not shifted by compensation | $24,300,000 |
| Total | $73,598,166 |

Discusses the question as to who pays the bill, and states that ultimately it rests on two groups, the injured employees, and society at large. The part employers and insurance carriers play is that of transfer agents for shifting and distributing the cost to society.

Gives the course of compensation cost for ten years;

| *Year from July to June* | *Total compensation paid* |
|---|---|
| 1916–1917 | $7,517,016 |
| 1917–1918 | 9,046,746 |
| 1918–1919 | 11,546,680 |
| 1919–1920 | 14,663,221 |
| 1920–1921 | 17,737,161 |
| 1921–1922 | 15,267,058 |
| 1922–1923 | 17,213,057 |
| 1923–1924 | 22,731,485 |

The several factors as to why it has risen are:

1. Amendments to the law by which additional industries or occupations have been brought under the law.
2. Amendments increasing the benefits.
3. The purely economic factor of the rising level of wages in New York industries.
4. The administrative factor, the development of private and public machinery for handling compensation, and the development of an attitude of a just rather than a technical construction of the law.
5. Rate of accident occurrence from year to year. This may sometimes tend to decrease the cost rather than increase it. This factor is of paramount importance and is discussed in detail.

Discusses means to accomplish the reduction of this great waste, and scores insurance companies for talking about raising rates on account of more liberal awards being paid in the last few years. The challenge is not to their claim departments but to their safety inspection departments to do more to help employers reduce accidents. Emphasis is placed on the fact that in the last analysis it is the employers who can and should respond to do most towards reaching the goal of reduced accident cost. Efficiency in accident prevention must at least equal production and selling efficiency in industry.

*Comparison of Workmen's Compensation Laws of the United States, as of January 1, 1925.* Lindley D. Clark. Bulletin of the U. S. Bureau of Labor Statistics, No. 379, pp. 15 and a five-page folded chart.

Summarizes in chart form by States the principal features of laws of the United States relative to workmen's compensation and insurance, revised January 1, 1925.

Shows the similarities and differences of the various State laws as to scope and coverage, hazardous employments, agriculture, public employment and other exclusions, diseases, waiting time, compensation scale, permanent and partial disability, administration and settlement, etc.

The lack of uniformity among the States in connection with accident prevention and reporting is very striking and the importance of complete reports has been too little recognized. The necessity of securing complete data for purposes of safety engineering, as well as for the determination of fair and adequate insurance rates is, however, gaining recognition, though much yet remains to be done before actually comparable reports are available.

*Maintenance of Contact with Employes of the Philadelphia Rapid Transit Company.* Dr. A. A. Mitten. Annals of the American Academy of Political and Social Science, May, 1925, Vol. 119, No. 208, pp. 108–114.

Describes relationships between employes of the Philadelphia Rapid Transit Company and the Company, and shows, by means of a tabulation, the tremendous savings that are effected due to the earnest coöperation and willing effort of the workers as a resut of the attitude of the management toward them.

Mitten Management bases the proper maintenance of contact with employes

upon the following premises, each of which is discussed in detail:

1. An attitude of complete frankness and fearlessness in all dealings with the employes.

2. Collective consideration on every point which involves wages or working conditions of employes.

3. A reasonable consideration for the social welfare of the employe insofar as it is affected by his employment.

4. Payment of a wage adequate to the necessities of life and comfort, and sufficient to permit of reasonable savings.

5. To encourage the laying aside of a regular part of the wage for protection against the rainy day.

6. Provision for participation by employes in such increased earnings as are made possible by increased effort of the employes.

7. Encouragement of investment of this added wage in such a way as to make the employes owners as well as workers.

*Standardized Tests in Pathology.* OSCAR B. HUNTER, TOMÁS CAJIGAS AND F. A. MOSS. Public Personnel Studies, June, 1925, Vol. 3, No. 6, pp. 172–185.

Presents a series of tests designed to select the class of pathologist who deals primarily with abnormal or diseased human tissues, as distinguished from plant and animal pathologists. It is expected that these tests will be of service in selecting; (1) persons seeking positions in pathological laboratories, (2) persons seeking a physician's license, (3) students in medical schools and schools for nurses, (4) persons seeking licenses as registered nurses.

Discusses duties, qualifications, processes of standardizing the tests, and characteristics of the standardized tests in pathology. A complete set of standardized and supplemental tests are given, but summarized, are as follows:

| *Nature of tests* | *Time (minutes)* | *Relative (weight)* |
|---|---|---|
| *Test 1*—General and special pathological conditions.... (Section A consists of 120 questions in the true-false form; each question is to be read and the competitor is to indicate, by encircling the T or F, whether it is true or false. Section B consists of 50 questions in the so-called multiple choice form, each with four answers suggested from which the competitor chooses one.) | | |
| *Test 2*—Laboratory procedure. (Two of the more important laboratory procedures are given, each of which can be accomplished in 5 steps. The 5 steps for each procedure are listed but not in the order in which they would actually be done. In addition several useless steps are inserted. The competitor numbers steps from one to five in the order in which he would use them.) | 75 | |
| *Test 3*—Diagnosis of cases... (The outstanding clinical and pathological findings in 10 cases are given. After reading over these findings, the competitor writes his diagnosis indicating the clinical or pathological entity.) | | 8 |
| *Test 4*—Recognition and diagnosis of pathological conditions by microscopic examination..... (30 slides showing diseased conditions of tissue commonly met with in pathological laboratories are shown. The competitors are given two minutes to examine each tissue under the microscope and to indicate their findings on a sheet of paper provided for the purpose.) | 60 | |
| *Test 5*—Eyesight..... (The individual is given one of the standard tests for eyesight.) | No rating | |

| Nature of tests | Time (minutes) | Relative (weight) |
|---|---|---|
| *Test 6*—Education and experience..... (A statement of the competitor's previous record, to be used only by personnel administrators.) | 10 | 2 |

*The Validity of Standards of Mental Measurement in Young Childhood.* HELEN T. WOOLLEY. School and Society, April 18, 1925, Vol. 21, No. 538, pp. 476–482.

Reviews what is known about validity of measurement of early childhood, discusses the author's experience and convictions based upon several years study of children, and presents some experimental results obtained at the Merrill-Palmer School in Detroit.

Tests of pre-school children are believed to be less valid than tests of older children, because, (1) fewer test elements are used than with older children, (2) there is rapid change in mental level in the young child due to modifications of environment and, (3) emotional factors are less under control at the earlier ages. Each one of these reasons is discussed in the light of observations made at the Merrill-Palmer School.

Present evidence seems to show that by taking proper precautions in interpretation of results and using a sufficiently large number of tests it is possible to determine the mental level of children as young as two to four years. It also seems to be true that what is later called "level of intelligence" may be due to the opportunities to learn given to young children. Educational opportunities with the pre-school child seem very great, as during that period he is laying the foundation of his general orientation in the world. Much knowledge yet is needed and to gain this, greater recognition of the importance of the early years must be given, and long experimentation must be carried on.

For purposes of adoption of young children much more information is needed, but it seems very improbable that a child should appear to be normal up to three or four years of age and then suddenly cease to develop.

*The Influence of Friendship Upon Personal Ratings.* EUGENE SHEN. Journal of Applied Psychology, March, 1925, Vol. 9, No. 1, pp. 66–68.

Twenty-eight individuals ranked one another as to degree of friendship and also in 8 different traits, such as intellectual quickness, intellectual profoundness, meanness, impulsiveness, etc. The accuracy of ratings as indicated by average deviation of estimates from the average judgment of the group, appeared to be little affected by the friendship of the judge and the judged. On the other hand there seemed a consistent tendency to overestimate the possession of the traits, with the exception of impulsiveness, of the more intimate friends.

*The Intelligence and Educational Achievement of Freshman Women at the University of Oklahoma.* M. O. WILSON. School and Society, June 6, 1925, Vol. 21, No. 545, pp. 693–694.

Reports a study made fo the Vocational Guidance Committee of the University of Oklahoma to secure data helpful in the proper supervsion of women entering for their first year of college work. Intelligence data were obtained by administering the Otis Advanced Intelligence Scale, Form A. Educational scores were expressed in terms of grade point averages of teachers' marks, covering the work of the first semester. The effect of sorority affiliation upon scholarship was studied, as was the relationship of urban and rural elementary school attendance upon college grades.

Summary and conclusions were:

1. Mean age of the group under consideration was 19.02 years.

2. Mean index of brightness as determined by the Otis Scale was 129.2, which is somewhat higher than that obtained by Otis for 2024 normal school students and 29.2 higher than the norm for the average individual.

3. Mean grade point average based on the work of the first semester was 3.31 in terms of the grading system used.

4. Coefficient of correlation between age

and index of brightness was $-0.12 \pm 0.04$; between age and grade point average $-0.03 \pm 0.04$; and between index of brightness and grade point average $0.39 \pm 0.04$.

5. Urban students made higher school marks than rural students, due to factors other than a difference in intelligence, since the mean index of brightness of the urban group was not significantly higher than that of the rural group.

6. Eighty-four per cent of the sorority group were urban.

7. Sorority students, when equated in intelligence with non-sorority students, secured significantly higher school marks than non-sorority students. Among the many possible causes for this superiority is the fact that the sorority membership is made up largely of urban women, who were found in turn to be superior in scholarship to the rural women.

*School Achievement and Success in Life.* A. T. POFFENBERGER. Journal of Applied Psychology, March, 1925, Vol. 9, No. 1, pp. 22–28.

Presents results published obscurely by Covell and Lohr based on 4000 West Point graduates. The criterion of success was appointment to grade of brigadier-general or above. Of the graduates in the highest quarter of scholarship, 32 per cent were successful in the above sense; of those in the second quarter in scholarship 27 per cent were successful and of those in the third and fourth quarters, 23 and 17 per cent respectively. The results are still more impressive when considering the first two men and the last two men in each graduating class. There is also an indication that the men in the lowest scholarship group were dismissed more frequently from the service.

# News Notes

### TAYLOR SOCIETY MEETING, DECEMBER 3 TO 5, 1925

The annual meeting of the Taylor Society will be held in the Engineering Societies Building, Thursday, Friday and Saturday, December 3, 4 and 5, 1925.

On Thursday joint sessions will be held with the Management Division of the American Society of Mechanical Engineers, one session will relate to production control and one to industrial psychology.

During the meeting one session will be devoted to a consideration of cases of coöperation between organized labor and management, and another is planned for major executives, at which the relations of major executives to departmental executives will be discussed.

Plans are under way also for a session which will be given up to reports on recent developments in market analysis and sales methods.

### TEACHERS COLLEGE COURSES IN VOCATIONAL AND EDUCATIONAL GUIDANCE AND PERSONNEL

Increasing activity in vocational and educational guidance in business organizations, government bureaus, social agencies, etc., as well as in schools and colleges, has created a lively demand for men and women adequately trained in the practise of vocational guidance and personnel administration

To meet the need, Teachers College is offering for the year 1925–1926 a specially arranged series of courses designed to present the problems of vocational adjustment in their various aspects—economic, sociological, psychological, etc., and to develop the technique necessary for the practise of vocational guidance. The special needs of teachers, deans, advisers, social service workers, employment managers, and other business executives have been kept in mind. In view of the diverse needs of these groups the courses dealing with the various phases of vocational guidance, such as vocational analysis and analysis of the individual, are of two types, one consisting of lectures and discussions, the other devoted to research.

Though open to qualified students who are not candidates for a degree, the work is all of graduate grade, and is planned primarily with reference to the degrees of Master of Arts and Doctor of Philosophy.

### THE NATION'S HEALTH: REORGANIZATION OF EDITORIAL BOARD

With the August issue of The Nation's Health Dr. C. E. A. Winslow, professor of public health, Yale School of Medicine, retired as editor and was succeeded by Dr. Frank L. Rector, former secretary of the Conference Board of Physicians in Industry and medical investigator for the National Industrial Conference Board, New York. Doctor Winslow will continue his active interest in the work as a member of the consultant editorial board which has been formed to assist Dr. Rector in his work. The changes were made to overcome the difficulties of functioning with the editorial and publication offices in widely separated places. Doctor Rector is located in the Chicago office, and is giving all of his time to the work.

It is the purpose of The Nation's Health to give impartial consideration to social questions, presenting only facts regarding the development of issues and giving a balanced account of all lines of public health endeavor until the whole movement is coördinated. The Nation's Health expects to take a constructive interest in the work of coördination.

In this connection the problems of the physician in industry will receive greater recognition than they have received in the

past. Child welfare, institutional health problems, questions of sanitation, and community betterment will be considered, as well as the more highly specialized research being made in the laboratories of health departments, schools, and industrial organizations. Ultimate decisions on many scientific questions may be long delayed but the progress reports contemplated should provide the stimulus for added effort in the study of related problems.

The Nation's Health will be a record of achievements with an interpretation of their important bearings. Its sole objective is to contribute to the upbuilding of the American people in matters pertaining to their health and general welfare.

### OCCUPATIONAL TESTING IN ENGLAND

Dr. Max Freyd, while visiting English and German investigators last July, obtained from Miss W. Spielman of the National Institute of Industrial Psychology the following tabulation of correlations between test scores and occupational success, summarizing recent investigations.

| OCCUPATION | GROUP OR INDIVIDUAL | r P.E. |
|---|---|---|
| Dressmaking, etc... | Group | 0.78±0.07 |
| Embroidery..... | Individual | 0.82±0.05 |
| Weaving..... | Individual | 0.77±0.07 |
| Blocking..... | Individual | 0.82±0.06 |
| Packing biscuits... | Individual (2 at once) | 0.86±0.04 |
| Piping biscuits..... | Individual (2 at once) | 0.84±0.04 |
| Calculating machine operating.. | Group | 0.62±0.13 |
| Ledger clerk..... | Group | (A 6.3: B 11.7: C 12.6: D 16.5) |
| Shorthand typing.. | Group | Incomplete |
| Packing chocolates..... | Both | 0.69±0.06 |
| Covering chocolates..... | Both | Incomplete |
| Saleswomen..... | Group | Incomplete |

### RESEARCH IN MANAGEMENT

*Plans of American Management Association for 1925*

The research program of the American Management Association for this calendar year, subject to certain additions which are under consideration and which may be included later, are as follows:

I. *Salary Administration:* Printing and distribution of the report prepared in 1923–4 by Harold B. Bergen of Henry L. Doherty & Co., Rita Hilborn of H. A. Hopf & Co., F. A. Kingsbury of the University of Chicago, Marion A. Bills of the Ætna Life Insurance Co., and Paul F. Brissenden of Columbia University.

II. *The Regularization of Employment:* Publication by Harper and Brothers of the volume begun in 1923 and completed in 1924 and 1925 by Dr. H. Feldman of Dartmouth College under the auspices of the Association.

III. *Field Sales Organization:* Completion, printing and distribution of the report begun in 1924 by Theodore Sander of the Harvard Graduate Business School under the direction of Dr. Harry R. Tosdal, Professor of Marketing.

IV. *Measuring Office Output:* Beginning of a study under the auspices of a committee of the Office Executives Division.

V. *Some Principles of Organization as Developed by Companies.* This study will be started this year by a group of investigators under the direction of J. O. McKinsey, head of the Department of Accounting, University of Chicago. A preliminary report on "Are There Trends in Management Organization" will be presented at the autumn conference on "Management Budgeting and Organization."

VI. *The Job of the Sales Executive:* Dr. Harry R. Tosdal, Professor of Marketing at the Harvard Graduate Business School will begin a study of this difficult topic for the Sales Executives' Division, anticipating that it will be published in 1926.

VII. *Personnel Terminology:* The results of the careful search and preparation of definitions of personnel terms under the direction of a committee of which J. D. Hackett is chairman will be published in the early autumn.

VIII. *Personnel Administration in College Curricula:* For a year and a half a committee of which Dr. Lee Galloway, Vice-President of the Ronald Press Company, is Chairman, has been studying what is actually being done or not being done by the arts and engineering colleges and collegiate schools of business to prepare future executives on the human side of management. The field has been surveyed by means of questionnaire, correspondence, field work and conference.

The results will be published during 1925 in the form of a summary report and also in the form of a complete report.

IX. *Survey Reports:* Less thorough surveys of the methods by which various management problems are met by representative companies have been prepared and distributed (except for i. which is being prepared) to Research Sustaining and Company Members as indicated in the list below. Others will be undertaken later as initiated by Research Sustaining Members.

*a.* Rewards for Inventions

*b.* Training Retail Salespeople, by Gertrude A. Posner, R.R.A.

*c.* Compensating Retail Salespeople, by Dr. D. R. Craig, University of Pittsburgh

*d.* Payment for Employee's Civil and Military Duties

*e.* Vaccination of Employees Against Smallpox

*f.* How New York Employers Treat Absence for Sickness, by Industrial Bureau, Merchants' Association of N. Y.

*g.* Disseminating Information Among Employees

*h.* Pensions for Industrial and Commercial Employees

*i.* Salesmen's Automobile Expense, by Edwin E. Troxell.

X. Special Investigations on specific problems upon request for Research Sustaining Members.

The Board of Directors in conference with representatives of Research Sustaining Members are already planning a definite management research program for 1926 and a tentative program for 1927.

### REDUCING AUTOMOBILE ACCIDENTS

"Accident Prevention Methods for Operators of Commercial Vehicles" is the title of a report by the Policyholders' Service Bureau of the Metropolitan Life Insurance Company. It outlines a program for selling safety coöperation to employees. A bonus plan based upon an accident point system, now being successfully used by a dairy of high reputation and by taxicab companies, is described.

The importance of accident prevention work among drivers of automobiles was revealed by the findings of the Hoover Conference on Street and Highway Safety. This conference found that 22,600 people were killed on the streets and highways of the United States in 1923; 678,000 suffered serious bodily injury, and all of these accidents involved an economic loss of more than $600,000,000!

The Metropolitan's report was prepared in response to a request made by a baking company which carries group insurance with them; their accident experience was heavy. All companies operating fleets of motor vehicles face the same hazards as this baking company—the same hazards which are reflected in the enormous figures coming from the Hoover conference. Copies of this report can be obtained from the Metropolitan Life Insurance Company, New York.

### DEANS AND ADVISERS OF MEN

The Seventh Annual Conference of Deans and Advisers of Men was held at the University of North Carolina, April 23–25. Dean Robert Rienow, of the University of Iowa, convened the Conference as President. Dean E. E. Nicholson, of the University of Minnesota completed his three-year term of service as Secretary. Subjects discussed included "Fraternities," led by Dean S. H. Hubbard, University of Texas; "Sophomore Pledging," led by Dean E. E. Nicholson, of the University of Minnesota; "Extra-Curricular Activities," led by Dean J. A. Bursley, of the University of Michigan; "In What Ways May a Dean of Men be Instrumental in Improving the Scholarship of his Institution," led by Dean Stanley Coulter, Purdue University; "Academic Mortality," led by Dean Carl Engberg, University of Nebraska.

There were more than thirty delegates present, representing twenty-eight different

institutions. Part of the program of entertainment was an automobile trip to Duke University, twelve miles away. The Conference accepted an invitation to meet in the spring of 1926 at the University of Minnesota. Deans of Men of the Pacific Coast institutions are to be invited to meet jointly with the Conference. Dean C. R. Melcher, of the University of Kentucky, was elected President of the Conference next year, and Dean Francis F. Bradshaw, of the University of North Carolina, is Secretary for the next three years.

### COLLEGE GUIDANCE NOTES

The report of the first two conferences on Vocational Guidance of College Students, published in the April number of the JOURNAL OF PERSONNEL RESEARCH, has been re-issued as No. 62 of the Reprint and Circular Series of the National Research Council, Washington, D. C., price 40 cents.

### SERVICE BULLETIN OF THE PERSONNEL RESEARCH FEDERATION

*Directory of Placement Services*

A Service Bulletin to provide for prompt issuance of information, of temporary interest or otherwise not of a character appropriate to the Journal of Personnel Research has been started under the editorship of Dr. Paul S. Achilles. The bulletin will appear at irregular intervals, as occasion demands. The first two issues, prepared for distribution to members attending the May Conference on Methods of Research in Industrial Relations and on College Personnel Research, are already out of print. Service Bulletin No. 3, entitled "Directory of Placement Services in American Colleges and Universities," has been distributed to 400 colleges and to 2500 business and industrial concerns. Copies may be obtained without charge by addressing the editor at the office of the Personnel Research Federation, Inc., 40 West Fortieth Street, New York.

### PERSONAL ITEMS

Dr. Max Freyd has severed his connection with the sales research department of the J. Walter Thompson Company to join the staff of the Personnel Research Federation. Dr. Freyd is best known for his publications on the technique of research in vocational selection and on the differences of personality of the socially and the mechanically inclined. He has also investigated graphic rating methods, methods of distinguishing introverted personalities, and aptitudes for journalism.

Dr. F. A. Moss has resigned from the staff of the Bureau of Public Personnel Administration to give his entire time to instruction at George Washington University and to research on examination of automobile drivers in relation to the causes of accidents.

Dr. H. D. Kitson of Indiana University has been appointed to a professorship in Teachers College, Columbia University, where he will give courses and direct research in vocational guidance.